GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:36:25 ; Search time 94.14 Seconds
(without alignments)
14.159 Million cell updates/sec

Title: US-09-367-714A-23
Perfect score: 52
Sequence: 1 KLLLKLLLKLLK 12

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters: 747574

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 52 | 100.0 | 12 | 18 | AAW35149 | Leu/Lys diastereom |
| 2 | 52 | 100.0 | 12 | 18 | AAW35152 | Leu/Lys diastereom |
| 3 | 52 | 100.0 | 12 | 19 | AAW82847 | Antipathogenic pep |
| 4 | 52 | 100.0 | 12 | 19 | AAW82850 | Antipathogenic pep |
| 5 | 52 | 100.0 | 12 | 19 | AAW82856 | Antipathogenic pep |
| 6 | 52 | 100.0 | 12 | 21 | AAB17413 | Antipathogenic pep |
| 7 | 52 | 100.0 | 12 | 21 | AAB17416 | Antipathogenic pep |
| 8 | 52 | 100.0 | 12 | 21 | AAB17483 | Antipathogenic pep |
| 9 | 52 | 100.0 | 12 | 21 | AAB17485 | Antipathogenic pep |
| 10 | 52 | 100.0 | 13 | 18 | AAW35231 | Diastereomer pepti |
| 11 | 52 | 100.0 | 13 | 21 | AAB17482 | Antipathogenic pep |
| 12 | 52 | 100.0 | 14 | 19 | AAW82854 | Antipathogenic pep |
| 13 | 52 | 100.0 | 37 | 19 | AAW77378 | Lytic peptide with |
| 14 | 52 | 100.0 | 77 | 19 | AAW82858 | Antipathogenic pep |
| 15 | 52 | 100.0 | 77 | 19 | AAW82859 | Antipathogenic pep |
| 16 | 46 | 88.5 | 12 | 18 | AAW35150 | Leu/Lys diastereom |
| 17 | 46 | 88.5 | 12 | 18 | AAW35153 | Leu/Lys diastereom |
| 18 | 46 | 88.5 | 12 | 18 | AAW35169 | Leu/Lys diastereom |
| 19 | 46 | 88.5 | 12 | 18 | AAW35170 | Leu/Lys diastereom |
| 20 | 46 | 88.5 | 12 | 18 | AAW35171 | Leu/Lys diastereom |
| 21 | 46 | 88.5 | 12 | 19 | AAW82848 | Antipathogenic pep |
| 22 | 46 | 88.5 | 12 | 19 | AAW82851 | Antipathogenic pep |
| 23 | 46 | 88.5 | 12 | 19 | AAW82857 | Antipathogenic pep |
| 24 | 46 | 88.5 | 12 | 19 | AAW82885 | Antipathogenic pep |
| 25 | 46 | 88.5 | 12 | 19 | AAW82886 | Antipathogenic pep |
| 26 | 46 | 88.5 | 12 | 19 | AAW82887 | Antipathogenic pep |
| 27 | 46 | 88.5 | 12 | 21 | AAB17414 | Antipathogenic pep |
| 28 | 46 | 88.5 | 12 | 21 | AAB17417 | Antipathogenic pep |
| 29 | 46 | 88.5 | 12 | 21 | AAB17420 | Antipathogenic pep |
| 30 | 46 | 88.5 | 12 | 21 | AAB17421 | Antipathogenic pep |
| 31 | 46 | 88.5 | 12 | 21 | AAB17422 | Antipathogenic pep |
| 32 | 46 | 88.5 | 13 | 18 | AAW35232 | Diastereomer pepti |
| 33 | 46 | 88.5 | 13 | 21 | AAB17484 | Antipathogenic pep |
| 34 | 46 | 88.5 | 14 | 19 | AAW82855 | Antipathogenic pep |
| 35 | 46 | 88.5 | 21 | 22 | AAU03187 | Membrane active sy |
| 36 | 46 | 88.5 | 21 | 22 | AAB60066 | KL3 membrane activ |
| 37 | 46 | 88.5 | 153 | 20 | AAY29393 | Sperm whale myoglo |
| 38 | 43 | 82.7 | 73 | 21 | AAB52057 | Human secreted pro |
| 39 | 41.5 | 79.8 | 15 | 19 | AAW77384 | Lytic peptide with |
| 40 | 41 | 78.8 | 28 | 10 | AAP91335 | Amino acid sequenc |
| 41 | 40 | 76.9 | 14 | 16 | AAR67795 | Antimicrobial olig |
| 42 | 40 | 76.9 | 14 | 21 | AAB17122 | Calmodulin antagon |
| 43 | 40 | 76.9 | 15 | 15 | AAR56957 | Peptide which neut |
| 44 | 40 | 76.9 | 16 | 16 | AAR67797 | Bisamine derivatiz |
| 45 | 40 | 76.9 | 16 | 16 | AAR67798 | Monoamine derivati |

ALIGNMENTS

RESULT 1
AAW35149
ID AAW35149 standard; peptide; 12 AA.
XX
AC AAW35149;
XX
DT 14-APR-1998 (first entry)
XX
DE Leu/Lys diastereomer peptide [D]-L3,4,8,10-K4L8.
XX
KW Leu/Lys diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW Honey bee venom; pardaxin; cytolytic activity; cancer;
KW non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW agricultural pesticide; cell wall lysis.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 3
FT /note= "D-form residue"
FT Misc-difference 4
FT /note= "D-form residue"
FT Misc-difference 8
FT /note= "D-form residue"
FT Misc-difference 10
FT /note= "D-form residue"
FT Modified-site 12
FT /note= "C-terminal amide"
XX
PN WO9731019-A2.
XX
PD 28-AUG-1997.
XX
PF 20-FEB-1997; 97WO-IL00066.

```
XX
PR   22-FEB-1996;   96IL-0117223.
XX
PA   (YEDA ) YEDA RES & DEV CO LTD.
XX
PI   Oren Z,  Shai Y;
XX
DR   WPI; 1997-435088/40.
XX
PT   Peptide(s) having selective cytolytic activity - against pathogens
PT   and malignant cells, but no haemolytic activity, used for treating
PT   infections and cancer
XX
PS   Claim 21; Page 39; 80pp; English.
XX
CC   This sequence represents a Leu/Lys diastereomer peptide of the
CC   invention. The peptides of the invention have: (a) cytolytic activity on
CC   pathogenic cells (pathogens and malignant cells not naturally present in
CC   the body); but (b) no haemolytic activity, or such activity only at a
CC   concentration significantly higher than that at which they lyse
CC   pathogens. The peptides, their complexes and mixtures are used to treat
CC   infections (caused by bacteria, fungi, protozoa, mycoplasma or viruses)
CC   or cancer, in human and veterinary medicine. Also, they can be used as
CC   preservatives for food, cosmetics and agricultural produce, or as
CC   agricultural pesticides. The absence of haemolytic activity (associated
CC   with disturbance of alpha-helical structures) means that the peptides
CC   have few if any toxic effects, and those that include D-aa will have
CC   increased resistance to proteolytic degradation. Non-haemolytic,
CC   cytotoxic random copolymers of pardaxin, each has a specific spectrum of
CC   activity, allowing selection of agents for particular applications. Since
CC   these random copolymers induce total lysis of bacterial cell walls,
CC   resistance to them is unlikely to develop.
XX
SQ   Sequence   12 AA;


  Query Match             100.0%;  Score 52;  DB 18;  Length 12;
  Best Local Similarity   100.0%;  Pred. No. 0.053;
  Matches   12;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           ||||||||||||
Db       1 klllklllkllk 12


RESULT   2
AAW35152
ID   AAW35152 standard; peptide; 12 AA.
XX
AC   AAW35152;
XX
DT   14-APR-1998  (first entry)
XX
DE   Leu/Lys diastereomer peptide [D]-K1,5,9,12L2,6,7,11-K4L8.
XX
KW   Leu/Lys diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW   Honey bee venom; pardaxin; cytolytic activity; cancer;
KW   non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW   agricultural pesticide; cell wall lysis.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1
FT                   /note= "D-form residue"
FT   Misc-difference 2
FT                   /note= "D-form residue"
FT   Misc-difference 5
FT                   /note= "D-form residue"
FT   Misc-difference 6
FT                   /note= "D-form residue"
FT   Misc-difference 7
FT                   /note= "D-form residue"
FT   Misc-difference 9
FT                   /note= "D-form residue"
FT   Misc-difference 11
FT                   /note= "D-form residue"
FT   Misc-difference 12
FT                   /note= "D-form residue"
FT   Modified-site   12
FT                   /note= "C-terminal amide"
XX
PN   WO9731019-A2.
XX
PD   28-AUG-1997.
XX
PF   20-FEB-1997;   97WO-IL00066.
XX
PR   22-FEB-1996;   96IL-0117223.
XX
PA   (YEDA ) YEDA RES & DEV CO LTD.
XX
PI   Oren Z,  Shai Y;
XX
DR   WPI; 1997-435088/40.
XX
PT   Peptide(s) having selective cytolytic activity - against pathogens
PT   and malignant cells, but no haemolytic activity, used for treating
PT   infections and cancer
XX
PS   Claim 21; Page 40; 80pp; English.
XX
CC   This sequence represents a Leu/Lys diastereomer peptide of the
CC   invention. The peptides of the invention have: (a) cytolytic activity on
CC   pathogenic cells (pathogens and malignant cells not naturally present in
CC   the body); but (b) no haemolytic activity, or such activity only at a
CC   concentration significantly higher than that at which they lyse
CC   pathogens. The peptides, their complexes and mixtures are used to treat
CC   infections (caused by bacteria, fungi, protozoa, mycoplasma or viruses)
CC   or cancer, in human and veterinary medicine. Also, they can be used as
CC   preservatives for food, cosmetics and agricultural produce, or as
CC   agricultural pesticides. The absence of haemolytic activity (associated
CC   with disturbance of alpha-helical structures) means that the peptides
CC   have few if any toxic effects, and those that include D-aa will have
CC   increased resistance to proteolytic degradation. Non-haemolytic,
CC   cytotoxic random copolymers of pardaxin, each has a specific spectrum of
CC   activity, allowing selection of agents for particular applications. Since
CC   these random copolymers induce total lysis of bacterial cell walls,
CC   resistance to them is unlikely to develop.
XX
SQ   Sequence   12 AA;


  Query Match             100.0%;  Score 52;  DB 18;  Length 12;
  Best Local Similarity   100.0%;  Pred. No. 0.053;
  Matches   12;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           ||||||||||||
Db       1 klllkllkllk 12


RESULT   3
AAW82847
ID   AAW82847 standard; peptide; 12 AA.
XX
AC   AAW82847;
XX
DT   19-MAY-1999  (first entry)
XX
DE   Antipathogenic peptide.
XX
KW   Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW   cancer; infection; disinfectant; contact lens wetting solution;
KW   preservative; pesticide; fungicide; bactericide.
XX
```

OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 12; Page 105; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 52; DB 19; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.053;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 1 klllklllkllk 12

RESULT 4
AAW82850
ID AAW82850 standard; peptide; 12 AA.
XX
AC AAW82850;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 13; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 52; DB 19; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.053;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 1 klllklllkllk 12

RESULT 5
AAW82856
ID AAW82856 standard; peptide; 12 AA.
XX
AC AAW82856;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX

PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 14; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 52; DB 19; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.053;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 1 klllklllkllk 12

RESULT 6
AAB17413
ID AAB17413 standard; Peptide; 12 AA.
XX
AC AAB17413;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:517.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999, 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 378; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 52; DB 21; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.053;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 1 klllklllkllk 12

RESULT 7
AAB17416
ID AAB17416 standard; Peptide; 12 AA.
XX
AC AAB17416;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:520.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
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PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.

XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 379; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 52; DB 21; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.053;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 1 klllkllkllk 12

RESULT 8
AAB17483
ID AAB17483 standard; Peptide; 12 AA.
XX
AC AAB17483;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:587.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 401; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 52; DB 21; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.053;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 1 klllkllkllk 12

RESULT 9
AAB17485
ID AAB17485 standard; Peptide; 12 AA.
XX
AC AAB17485;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:589.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;

XX
DR WPI; 2000-350702/30.
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PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 402; 608pp; English.
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CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 52; DB 21; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.053;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 1 klllklllkllk 12

RESULT 10
AAW35231
ID AAW35231 standard; peptide; 13 AA.
XX
AC AAW35231;
XX
DT 14-APR-1998 (first entry)
XX
DE Diastereomer peptide [D]-L3,4,8,10-K4L8C.
XX
KW Diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW Honey bee venom; pardaxin; cytolytic activity; cancer;
KW non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW agricultural pesticide; cell wall lysis.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 3
FT /note= "D-form residue"
FT Misc-difference 4
FT /note= "D-form residue"
FT Misc-difference 8
FT /note= "D-form residue"
FT Misc-difference 10
FT /note= "D-form residue"
XX
PN WO9731019-A2.
XX
PD 28-AUG-1997.
XX
PF 20-FEB-1997; 97WO-IL00066.
XX
PR 22-FEB-1996; 96IL-0117223.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1997-435088/40.
XX
PT Peptide(s) having selective cytolytic activity - against pathogens
PT and malignant cells, but no haemolytic activity, used for treating
PT infections and cancer
XX
PS Example 7; Page 49; 80pp; English.
XX
CC This sequence represents a diastereomer peptide of the invention. This
CC sequence is used in a "bundle sequence", which is created by binding 5
CC copies of this sequence to peptide 23 (see AAW35149). The peptides of
CC the invention have: (a) cytolytic activity on pathogenic cells (pathogens
CC and malignant cells not naturally present in the body); but (b) no
CC haemolytic activity, or such activity only at a concentration
CC significantly higher than that at which they lyse pathogens. The
CC peptides, their complexes and mixtures are used to treat infections
CC (caused by bacteria, fungi, protozoa, mycoplasma or viruses) or cancer,
CC in human and veterinary medicine. Also, they can be used as preservatives
CC for food, cosmetics and agricultural produce, or as agricultural
CC pesticides. The absence of haemolytic activity (associated with
CC disturbance of alpha-helical structures) means that the peptides have few
CC if any toxic effects, and those that include D-aa will have increased
CC resistance to proteolytic degradation. Non-haemolytic, cytotoxic random
CC copolymers of pardaxin, each has a specific spectrum of activity,
CC allowing selection of agents for particular applications. Since these
CC random copolymers induce total lysis of bacterial cell walls, resistance
CC to them is unlikely to develop.
XX
SQ Sequence 13 AA;

Query Match 100.0%; Score 52; DB 18; Length 13;
Best Local Similarity 100.0%; Pred. No. 0.057;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 1 klllklllkllk 12

RESULT 11
AAB17482
ID AAB17482 standard; Peptide; 13 AA.
XX
AC AAB17482;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:586.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.

PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
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PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 401; 608pp; English.
XX
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CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 13 AA;

Query Match 100.0%; Score 52; DB 21; Length 13;
Best Local Similarity 100.0%; Pred. No. 0.057;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 1 klllklllkllk 12

RESULT 12
AAW82854
ID AAW82854 standard; peptide; 14 AA.
XX
AC AAW82854;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 14; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 14 AA;

Query Match 100.0%; Score 52; DB 19; Length 14;
Best Local Similarity 100.0%; Pred. No. 0.061;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 2 klllklllkllk 13

RESULT 13
AAW77378
ID AAW77378 standard; peptide; 37 AA.
XX
AC AAW77378;
XX
DT 14-DEC-1998 (first entry)
XX
DE Lytic peptide with alterable function 3.
XX
KW Biologically active peptide; hormone; drug; toxin;
KW lipid bilayer membrane; microorganism; parasite; virus.
XX
OS Synthetic.
XX
PN WO9841535-A2.
XX
PD 24-SEP-1998.
XX
PF 18-MAR-1998; 98WO-GB00799.
XX
PR 18-MAR-1997; 97GB-0005519.
XX
PA (ANMA-) ANMAT TECHNOLOGY LTD.
XX
PI Ajoula HS, Clarke DJ;
XX
DR WPI; 1998-521161/44.
XX
PT New modified peptide(s) - obtained by substitution with an amino
PT acid which is modifiable by a reaction and replacing other amino
PT acids which are not to be modified
XX

PS Claim 7; Page 22; 33pp; English.
XX
CC The peptides AAW77376-W77390 can be modified by the method of the
CC invention by substituting at least one amino acid of the peptide to
CC provide a peptide having at least one amino acid which is modifiable by
CC a reaction and replacing other amino acids in the peptide with amino
CC acids which are not modifiable by the reaction. The methods can be used
CC for the modification of biologically active peptides such as hormones,
CC drugs, toxins and peptides which act on lipid bilayer membranes. The
CC modified peptides can be used e.g. in the body of an animal or plant or
CC parts in order to affect the structure or integrity or permeability of a
CC foreign body such as a microorganism, parasite or virus present in the
CC body of the animal or plant or within the cells of the body of the animal
CC or plant.
XX
SQ Sequence 37 AA;

Query Match 100.0%; Score 52; DB 19; Length 37;
Best Local Similarity 100.0%; Pred. No. 0.16;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 11 klllkllkllk 22

RESULT 14
AAW82858
ID AAW82858 standard; peptide; 77 AA.
XX
AC AAW82858;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 17; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 77 AA;

Query Match 100.0%; Score 52; DB 19; Length 77;
Best Local Similarity 100.0%; Pred. No. 0.33;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
||||||||||||
Db 1 klllkllkllk 12

RESULT 15
AAW82859
ID AAW82859 standard; peptide; 77 AA.
XX
AC AAW82859;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
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PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
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PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 17; Page 107; 126pp; English.
XX
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CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be

CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 77 AA;

Query Match 100.0%; Score 52; DB 19; Length 77;
Best Local Similarity 100.0%; Pred. No. 0.33;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy       1 KLLLKLLLKLLK 12
           ||||||||||||
Db      66 klllklllkllk 77
```

Search completed: June 17, 2002, 12:41:21
Job time: 296 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:38:45 ; Search time 46.42 Seconds
(without alignments)
24.840 Million cell updates/sec

Title: US-09-367-714A-23
Perfect score: 52
Sequence: 1 KLLLKLLLKLLK 12

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_71:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 40 | 76.9 | 2513 | 2 | G96536 | hypothetical prote |
| 2 | 37 | 71.2 | 137 | 2 | A96914 | uncharacterized pr |
| 3 | 37 | 71.2 | 238 | 2 | E71375 | probable ABC trans |
| 4 | 37 | 71.2 | 255 | 2 | A60637 | merozoite antigen |
| 5 | 37 | 71.2 | 465 | 2 | T30155 | hypothetical prote |
| 6 | 36 | 69.2 | 143 | 2 | S03747 | small membrane pro |
| 7 | 36 | 69.2 | 1896 | 2 | T01490 | hypothetical prote |
| 8 | 35 | 67.3 | 39 | 2 | G85837 | hypothetical prote |
| 9 | 35 | 67.3 | 318 | 2 | C81386 | probable integral |
| 10 | 35 | 67.3 | 319 | 2 | A70102 | conserved hypothet |
| 11 | 35 | 67.3 | 3268 | 2 | S69625 | hypothetical prote |
| 12 | 34 | 65.4 | 53 | 2 | T03171 | probable antibioti |
| 13 | 34 | 65.4 | 191 | 2 | F90392 | hypothetical prote |
| 14 | 34 | 65.4 | 213 | 2 | T01464 | hypothetical prote |
| 15 | 34 | 65.4 | 235 | 2 | I40627 | probable transcrip |
| 16 | 34 | 65.4 | 235 | 2 | B97109 | DNA-dependent RNA |
| 17 | 34 | 65.4 | 282 | 2 | G71932 | hypothetical prote |
| 18 | 34 | 65.4 | 433 | 2 | A69735 | phage PBSX termina |
| 19 | 34 | 65.4 | 552 | 2 | F71132 | probable nitrite r |
| 20 | 34 | 65.4 | 662 | 2 | E95105 | ABC transporter, p |
| 21 | 34 | 65.4 | 662 | 2 | E97973 | hypothetical prote |
| 22 | 34 | 65.4 | 707 | 2 | H82709 | colicin V secretio |
| 23 | 34 | 65.4 | 984 | 1 | DJNVCP | DNA-directed DNA p |
| 24 | 34 | 65.4 | 986 | 2 | T41809 | DNA polymerase orf |
| 25 | 34 | 65.4 | 1712 | 2 | C71618 | hypothetical prote |
| 26 | 33 | 63.5 | 84 | 2 | E96916 | hypothetical prote |
| 27 | 33 | 63.5 | 91 | 2 | G70155 | phosphocarrier pro |
| 28 | 33 | 63.5 | 109 | 2 | S42121 | RNaseP C5 chain - |
| 29 | 33 | 63.5 | 144 | 2 | T18867 | hypothetical prote |
| 30 | 33 | 63.5 | 187 | 2 | E95056 | conserved hypothet |
| 31 | 33 | 63.5 | 191 | 2 | H72767 | hypothetical prote |
| 32 | 33 | 63.5 | 192 | 2 | A97926 | conserved hypothet |
| 33 | 33 | 63.5 | 223 | 2 | A99926 | hypothetical prote |
| 34 | 33 | 63.5 | 287 | 2 | F72307 | conserved hypothet |
| 35 | 33 | 63.5 | 296 | 2 | G97799 | hypothetical prote |
| 36 | 33 | 63.5 | 319 | 2 | D90589 | hypothetical prote |
| 37 | 33 | 63.5 | 330 | 2 | AH2188 | hypothetical prote |
| 38 | 33 | 63.5 | 333 | 1 | DCRTDM | adenosylmethionine |
| 39 | 33 | 63.5 | 334 | 1 | DCHUDM | adenosylmethionine |
| 40 | 33 | 63.5 | 334 | 1 | DCHYDM | adenosylmethionine |
| 41 | 33 | 63.5 | 334 | 2 | A55948 | adenosylmethionine |
| 42 | 33 | 63.5 | 364 | 2 | B36313 | hypothetical 42K p |
| 43 | 33 | 63.5 | 384 | 2 | S66758 | probable membrane |
| 44 | 33 | 63.5 | 425 | 2 | A70394 | hypothetical prote |
| 45 | 33 | 63.5 | 476 | 2 | C84687 | probable fatty aci |

ALIGNMENTS

RESULT 1
G96536
hypothetical protein F2J10.9 [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Mar-2001
C;Accession: G96536
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alon Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marzia Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallo ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719
A;Accession: G96536
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-2513 <STO>
A;Cross-references: GB:AE005173; NID:g8569097; PIDN:AAF76442.1; GSPDB:GN00141
C;Genetics:
A;Gene: F2J10.9
A;Map position: 1

Query Match 76.9%; Score 40; DB 2; Length 2513;
Best Local Similarity 90.9%; Pred. No. 1.1e+02;
Matches 10; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy       2 LLLKLLLKLLK 12
           ||| |||||||
Db     797 LLLGLLLKLLK 807
```

RESULT 2
A96914
uncharacterized protein, Yje/RRF2 family [imported] - Clostridium acetobutylicum
C;Species: Clostridium acetobutylicum
C;Date: 14-Sep-2001 #sequence_revision 14-Sep-2001 #text_change 14-Sep-2001
C;Accession: A96914
R;Nolling, J.; Breton, G.; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; L .; Daly, M.J.; Bennett, G.N.; Koonin, E.V.; Smith, D.R.
J. Bacteriol. 183, 4823-4838, 2001
A;Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium
A;Reference number: A96900; MUID:21359325; PMID:21359325
A;Accession: A96914
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-137 <KUR>
A;Cross-references: GB:AE001437; PIDN:AAK78100.1; PID:g15022941; GSPDB:GN00168

A;Experimental source: Clostridium acetobutylicum ATCC824
C;Genetics:
A;Gene: CAC0115

Query Match 71.2%; Score 37; DB 2; Length 137;
Best Local Similarity 66.7%; Pred. No. 25;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLLK 12
: ||||| ||:|
Db 40 RFLLKLLRKLIK 51

RESULT 3
E71375
probable ABC transporter, ATP-binding protein - syphilis spirochete
C;Species: Treponema pallidum subsp. pallidum (syphilis spirochete)
C;Date: 24-Jul-1998 #sequence_revision 24-Jul-1998 #text_change 17-Mar-2000
C;Accession: E71375
R;Fraser, C.M.; Norris, S.J.; Weinstock, G.M.; White, O.; Sutton, G.G.; Dodson, R.; Gwin
rson, J.; Khalak, H.; Richardson, D.; Howell, J.K.; Chidambaram, M.; Utterback, T.; McDo
they, L.; Weidman, J.; Smith, H.O.; Venter, J.C.
Science 281, 375-388, 1998
A;Title: Complete genome sequence of Treponema pallidum, the syphilis spirochete.
A;Reference number: A71250; MUID:98332770
A;Accession: E71375
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-238 <COL>
A;Cross-references: GB:AE001188; GB:AE000520; NID:g3322282; PIDN:AAC65030.1; PID:g332229
A;Experimental source: strain Nichols
C;Genetics:
A;Gene: TP0035
C;Superfamily: unassigned ATP-binding cassette proteins; ATP-binding cassette homology
C;Keywords: ATP
F;27-207/Domain: ATP-binding cassette homology <ABC>

Query Match 71.2%; Score 37; DB 2; Length 238;
Best Local Similarity 80.0%; Pred. No. 41;
Matches 8; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 3 LLKLLLKLLK 12
|:||:|||||
Db 53 LVKLVLKLLK 62

RESULT 4
A60637
merozoite antigen LPMC-61 - Eimeria tenella (fragment)
C;Species: Eimeria tenella
C;Date: 28-Apr-1993 #sequence_revision 28-Apr-1993 #text_change 07-May-1999
C;Accession: A60637
R;Ko, C.; Smith II, C.K.; McDonell, M.
Mol. Biochem. Parasitol. 41, 53-64, 1990
A;Title: Identification and characterization of a target antigen of a monoclonal antibod
A;Reference number: A60637; MUID:90348718
A;Accession: A60637
A;Molecule type: mRNA
A;Residues: 1-255 <KOA>
A;Cross-references: GB:M30933
C;Keywords: tandem repeat
F;18-240/Region: glutamine-rich repeats

Query Match 71.2%; Score 37; DB 2; Length 255;
Best Local Similarity 81.8%; Pred. No. 44;
Matches 9; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 KLLLKLLLKLL 11
:|||||| ||
Db 2 RLLLKLLLLLL 12

RESULT 5
T30155
hypothetical protein C37A2.5 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
C;Accession: T30155
R;Le, T.T.; Kemp, K.; Scheet, P.
submitted to the EMBL Data Library, April 1997
A;Description: The sequence of C. elegans cosmid C37A2.
A;Reference number: Z20746
A;Accession: T30155
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-465 <LET>
A;Cross-references: EMBL:U97194; PIDN:AAB52449.1; GSPDB:GN00019; CESP:C37A2.5
A;Experimental source: strain Bristol N2; clone C37A2
C;Genetics:
A;Gene: CESP:C37A2.5
A;Map position: 1
A;Introns: 47/1; 117/1; 185/1; 264/3; 364/2; 426/2

Query Match 71.2%; Score 37; DB 2; Length 465;
Best Local Similarity 70.0%; Pred. No. 77;
Matches 7; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Qy 3 LLKLLLKLLK 12
|||::|||:||
Db 452 LLKIILKILK 461

RESULT 6
S03747
small membrane protein eag - Bacillus subtilis
C;Species: Bacillus subtilis
C;Date: 21-Nov-1993 #sequence_revision 01-Dec-1995 #text_change 20-Jun-2000
C;Accession: S03747; C69619
R;Perego, M.; Hoch, J.A.
Mol. Microbiol. 1, 125-132, 1987
A;Title: Isolation and sequence of the spo0E gene: its role in initiation of sporulat
A;Reference number: S03746; MUID:88260878
A;Accession: S03747
A;Molecule type: DNA
A;Residues: 1-143 <PER>
A;Cross-references: EMBL:Y00526; NID:g40181; PIDN:CAA68584.1; PID:g40183
R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Ber
C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.;
A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari,
Nature 390, 249-256, 1997
A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Gal
iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M
Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardino
A;Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mau
y, M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portete
Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanl
A;Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Se
akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiya
T.; Winters, P.; Wipat, A.; Yamamoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida
A;Authors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A.
A;Title: The complete genome sequence of the Gram-positive bacterium Bacillus subtili
A;Reference number: A69580; MUID:98044033
A;Accession: C69619
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-143 <KUN>
A;Cross-references: GB:Z99111; GB:AL009126; NID:g2633699; PIDN:CAB13238.1; PID:g26337
A;Experimental source: strain 168
C;Genetics:
A;Gene: eag
C;Superfamily: Bacillus subtilis small membrane protein eag

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  Query Match             69.2%;  Score 36;  DB 2;  Length 143;
  Best Local Similarity   63.6%;  Pred. No. 38;
  Matches    7;  Conservative    3;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      2 LLLKLLLKLLK 12
          ||||:||: :|
Db    114 LLLKMLLRFIK 124


RESULT   7
T01490
hypothetical protein F17O7.14 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 22-Oct-1999
C;Accession: T01490
R;Vysotskaia, V.S.; Schwartz, J.R.; Toriumi, M.; Yu, G.; Kwan, A.; Oji, O.; Liu, S.; Li,
rtz, D.; Li, Y.; Palm, C.J.; Shinn, P.; Sun, H.; Davis, R.W.; Ecker, J.R.; Federspiel, N
submitted to the EMBL Data Library, June 1998
A;Description: Arabidopsis thaliana chromosome 1 BAC F17O7 sequence.
A;Reference number: Z14334
A;Accession: T01490
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1896 <VYS>
A;Cross-references: EMBL:AC003671; NID:g2833627; PID:g3176689; GSPDB:GN00059; ATSP:F17O7
A;Experimental source: cultivar Columbia
C;Genetics:
A;Gene: ATSP:F17O7.14
A;Map position: 1
A;Introns: 11/3; 43/3; 112/3; 1803/3


  Query Match             69.2%;  Score 36;  DB 2;  Length 1896;
  Best Local Similarity   72.7%;  Pred. No. 4.1e+02;
  Matches    8;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      2 LLLKLLLKLLK 12
          |||:|:|| ||
Db   1832 LLLELMLKTLK 1842


RESULT   8
G85837
hypothetical protein Z3270 [imported] - Escherichia coli (strain O157:H7, substrain EDL9
C;Species: Escherichia coli
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 14-Sep-2001
C;Accession: G85837
R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mayhew
iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apodaca,
Nature 409, 529-533, 2001
A;Title: Genome sequence of enterohemorrhagic Escherichia coli O157:H7.
A;Reference number: A85480; MUID:21074935; PMID:11206551
A;Accession: G85837
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-39 <STO>
A;Cross-references: GB:AE005174; NID:g12516312; PIDN:AAG57163.1; GSPDB:GN00145; UWGP:Z32
A;Experimental source: strain O157:H7, substrain EDL933
C;Genetics:
A;Gene: Z3270


  Query Match             67.3%;  Score 35;  DB 2;  Length 39;
  Best Local Similarity   54.5%;  Pred. No. 17;
  Matches    6;  Conservative    4;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      2 LLLKLLLKLLK 12
          :|||||::|: |
Db      1 MLLKLIIKIFK 11


RESULT   9
C81386
probable integral membrane protein Cj0421c [imported] - Campylobacter jejuni (strain
C;Species: Campylobacter jejuni
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 31-Mar-2000
C;Accession: C81386
R;Parkhill, J.; Wren, B.W.; Mungall, K.; Ketley, J.M.; Churcher, C.; Basham, D.; Chil
 C.W.; Quail, M.; Rajandream, M.A.; Rutherford, K.M.; VanVliet, A.; Whitehead, S.; Ba
Nature 403, 665-668, 2000
A;Title: The genome sequence of the food-borne pathogen Campylobacter jejuni reveals
A;Reference number: A81250; MUID:20150912
A;Accession: C81386
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-318 <PAR>
A;Cross-references: GB:AL139075; GB:AL111168; NID:g6967817; PIDN:CAB74257.1; PID:g696
A;Experimental source: serotype O2, strain NCTC 11168
C;Genetics:
A;Gene: Cj0421c


  Query Match             67.3%;  Score 35;  DB 2;  Length 318;
  Best Local Similarity   58.3%;  Pred. No. 1.2e+02;
  Matches    7;  Conservative    3;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLLKLLK 12
          ||:|| : |:||
Db    233 KLILKQIAKILK 244


RESULT  10
A70102
conserved hypothetical integral membrane protein BB0017 - Lyme disease spirochete
C;Species: Borrelia burgdorferi (Lyme disease spirochete)
C;Date: 13-Feb-1998 #sequence_revision 13-Feb-1998 #text_change 29-Sep-1999
C;Accession: A70102
R;Fraser, C.M.; Casjens, S.; Huang, W.M.; Sutton, G.G.; Clayton, R.; Lathigra, R.; Wh
son, D.; Peterson, J.; Kerlavage, A.R.; Quackenbush, J.; Salzberg, S.; Hanson, M.; Vu
; Bowman, C.; Garland, S.; Fujii, C.; Cotton, M.D.; Horst, K.; Roberts, K.; Hatch, B.
Nature 390, 580-586, 1997
A;Authors: Smith, H.O.; Venter, J.C.
A;Title: Genomic sequence of a Lyme disease spirochaete, Borrelia burgdorferi.
A;Reference number: A70100; MUID:98065943
A;Accession: A70102
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-319 <KLE>
A;Cross-references: GB:AE001116; GB:AE000783; NID:g2687896; PIDN:AAC66414.1; PID:g268
A;Experimental source: strain B31
C;Superfamily: conserved hypothetical protein yitT


  Query Match             67.3%;  Score 35;  DB 2;  Length 319;
  Best Local Similarity   66.7%;  Pred. No. 1.2e+02;
  Matches    8;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLLKLLK 12
          |||| :|:| ||
Db     17 KLLLLILIKKLK 28


RESULT  11
S69625
hypothetical protein YDR457w - yeast (Saccharomyces cerevisiae)
C;Species: Saccharomyces cerevisiae
C;Date: 22-Aug-1996 #sequence_revision 06-Sep-1996 #text_change 23-Mar-2001
C;Accession: S69625
R;Dietrich, F.S.
submitted to the EMBL Data Library, August 1995
A;Description: The sequence of S. cerevisiae cosmids 9410, 8035, 8166, and 9787.
A;Reference number: S69554
A;Accession: S69625
A;Molecule type: DNA
A;Residues: 1-3268 <DIE>
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A,Cross-references: EMBL:U33050; NID:g927726; PIDN:AAB64910.1; PID:g927738; MIPS:YDR457w
C,Genetics:
A,Gene: SGD:TOM1
A,Cross-references: SGD:S0002865; MIPS:YDR457w
A,Map position: 4R


  Query Match             67.3%;  Score 35;  DB 2;  Length 3268;
  Best Local Similarity   88.9%;  Pred. No. 9.9e+02;
  Matches    8;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       3 LLKLLLKLL 11
           ||||:|||| |
Db     515 LLKLVLKLL 523


RESULT  12
T03171
probable antibiotic polypeptide - Chilo iridescent virus
C;Species: Chilo iridescent virus
C;Date: 24-Mar-1999 #sequence_revision 24-Mar-1999 #text_change 20-Aug-1999
C;Accession: T03171
R;Bahr, U.; Tidona, C.A.; Darai, G.
Virus Genes 15, 235-245, 1997
A;Title: The DNA sequence of Chilo iridescent virus between the genome coordinates 0.101
A;Reference number: Z14834; MUID:98141693
A;Accession: T03171
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-53 <BAH>
A;Cross-references: EMBL:AF003534; NID:g2738385; PIDN:AAB94469.1; PID:g2738442
C;Superfamily: sillucin


  Query Match             65.4%;  Score 34;  DB 2;  Length 53;
  Best Local Similarity   70.0%;  Pred. No. 33;
  Matches    7;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLL 11
           :|||:| |||
Db       3 ILLKILFKLL 12


RESULT  13
F90392
hypothetical protein SSO2227 [imported] - Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Date: 24-May-2001 #sequence_revision 24-May-2001 #text_change 24-May-2001
C;Accession: F90392
R;She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chan-
 Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, P
arrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J.
submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
A;Reference number: A99139
A;Accession: F90392
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-191 <KUR>
A;Cross-references: GB:AE006641; NID:g13815527; PIDN:AAK42397.1; GSPDB:GN00155
C;Genetics:
A;Gene: SSO2227


  Query Match             65.4%;  Score 34;  DB 2;  Length 191;
  Best Local Similarity   88.9%;  Pred. No. 1.1e+02;
  Matches    8;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       4 LKLLLKLLK 12
           || |||||| |
Db      35 LKALLKLLK 43


RESULT  14
T01464
hypothetical protein T24H24.20 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 24-Mar-1999
C;Accession: T01464
R;Courtney, L.; Stoneking, T.; Langston, Y.; Mead, K.
submitted to the EMBL Data Library, August 1998
A;Description: The sequence of A. thaliana T24H24.
A;Reference number: Z14333
A;Accession: T01464
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-213 <COU>
A;Cross-references: EMBL:AF075598; NID:g3293581; PID:g3377838
A;Experimental source: cultivar Columbia
C;Genetics:
A;Map position: 4
A;Introns: 48/1; 102/3
A;Note: T24H24.20


  Query Match             65.4%;  Score 34;  DB 2;  Length 213;
  Best Local Similarity   66.7%;  Pred. No. 1.2e+02;
  Matches    8;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           :|:||||| | |
Db     200 QLILKLLLPLSK 211


RESULT  15
I40627
probable transcription initiation factor sigma E - Clostridium acetobutylicum
C;Species: Clostridium acetobutylicum
C;Date: 12-Aug-1996 #sequence_revision 12-Aug-1996 #text_change 15-Oct-1999
C;Accession: I40627; S34309
R;Wong, J.; Sass, C.; Bennett, G.N.
Gene 153, 89-92, 1995
A;Title: Sequence and arrangement of genes encoding sigma factors in Clostridium acet
A;Reference number: I40626; MUID:95189110
A;Accession: I40627
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-235 <RES>
A;Cross-references: EMBL:U07420; NID:g705344; PIDN:AAC43309.1; PID:g460971
R;Sauer, U.; Treuner, A.; Buchholz, M.; Duerre, P.
submitted to the EMBL Data Library, June 1993
A;Description: Sigma factor homologous genes in C. acetobutylicum.
A;Reference number: S34306
A;Accession: S34309
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 46-146,'P',148-235 <SAU>
A;Cross-references: EMBL:Z23079
C;Genetics:
A;Gene: sigE
C;Superfamily: transcription initiation factor sigma K; transcription initiation fact
C;Keywords: DNA binding; sigma factor; transcription initiation
F;60-235/Domain: transcription initiation factor sigma katF homology <KTF>


  Query Match             65.4%;  Score 34;  DB 2;  Length 235;
  Best Local Similarity   72.7%;  Pred. No. 1.3e+02;
  Matches    8;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLL 11
           | ||:|| |||
Db       2 KFLLRLLSKLL 12


Search completed: June 17, 2002, 12:42:57
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Job time: 252 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:39:45 ; Search time 21.35 Seconds
(without alignments)
21.763 Million cell updates/sec

Title: US-09-367-714A-23
Perfect score: 52
Sequence: 1 KLLLKLLLKLLK 12

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 37 | 71.2 | 238 | 1 | Y035_TREPA | O83078 treponema p |
| 2 | 37 | 71.2 | 255 | 1 | LP61_EIMTE | P15714 eimeria ten |
| 3 | 36 | 69.2 | 143 | 1 | EAG_BACSU | P06630 bacillus su |
| 4 | 35 | 67.3 | 1997 | 1 | OTOF_HUMAN | Q9hc10 homo sapien |
| 5 | 34 | 65.4 | 235 | 1 | RPSE_CLOAB | P33657 clostridium |
| 6 | 34 | 65.4 | 433 | 1 | XTMB_BACSU | P39786 bacillus su |
| 7 | 34 | 65.4 | 984 | 1 | DPOL_NPVAC | P18131 autographa |
| 8 | 34 | 65.4 | 986 | 1 | DPOL_NPVBM | P41712 bombyx mori |
| 9 | 33 | 63.5 | 31 | 1 | LPL_BUCRP | Q53017 buchnera ap |
| 10 | 33 | 63.5 | 109 | 1 | RNPA_MYCCA | P43039 mycoplasma |
| 11 | 33 | 63.5 | 333 | 1 | DCAM_RAT | P17708 rattus norv |
| 12 | 33 | 63.5 | 334 | 1 | DCAM_BOVIN | P50243 bos taurus |
| 13 | 33 | 63.5 | 334 | 1 | DCAM_HUMAN | P17707 homo sapien |
| 14 | 33 | 63.5 | 334 | 1 | DCAM_MESAU | P28918 mesocricetu |
| 15 | 33 | 63.5 | 334 | 1 | DCM1_MOUSE | P31154 mus musculu |
| 16 | 33 | 63.5 | 334 | 1 | DCM2_MOUSE | P82184 mus musculu |
| 17 | 33 | 63.5 | 334 | 1 | DCM2_MUSSP | P82185 mus spretus |
| 18 | 33 | 63.5 | 940 | 1 | GBR2_RAT | O88871 rattus norv |
| 19 | 32 | 61.5 | 201 | 1 | EFA4_HUMAN | P52798 homo sapien |
| 20 | 32 | 61.5 | 209 | 1 | IL6_PHOVI | Q28819 phoca vitul |
| 21 | 32 | 61.5 | 318 | 1 | BSTI_HUMAN | Q10588 homo sapien |
| 22 | 32 | 61.5 | 386 | 1 | RMAR_HANWI | P48849 hansenula w |
| 23 | 32 | 61.5 | 402 | 1 | SHBG_HUMAN | P04278 homo sapien |
| 24 | 32 | 61.5 | 475 | 1 | ASPA_BACSU | P26899 bacillus su |
| 25 | 32 | 61.5 | 483 | 1 | VATH_BOVIN | O46563 bos taurus |
| 26 | 32 | 61.5 | 483 | 1 | VATH_HUMAN | Q9ui12 homo sapien |
| 27 | 32 | 61.5 | 483 | 1 | VATH_PIG | Q9tvc1 sus scrofa |
| 28 | 32 | 61.5 | 557 | 1 | FACC_RAT | O35870 rattus norv |
| 29 | 32 | 61.5 | 630 | 1 | Y242_MYCGE | P47484 mycoplasma |
| 30 | 32 | 61.5 | 743 | 1 | PURL_BACHD | Q9kf57 bacillus ha |
| 31 | 32 | 61.5 | 811 | 1 | RFXL_YEAST | P48743 saccharomyc |
| 32 | 32 | 61.5 | 875 | 1 | ENV_BIV06 | P19556 bovine immu |
| 33 | 32 | 61.5 | 904 | 1 | ENV_BIV27 | P19557 bovine immu |
| 34 | 32 | 61.5 | 1472 | 1 | A2MG_RAT | P06238 rattus norv |
| 35 | 32 | 61.5 | 1941 | 1 | UBR1_KLULA | O60014 kluyveromyc |
| 36 | 32 | 61.5 | 2124 | 1 | Y192_HUMAN | Q93074 homo sapien |
| 37 | 32 | 61.5 | 2470 | 1 | TOR1_YEAST | P35169 saccharomyc |
| 38 | 32 | 61.5 | 3744 | 1 | YHP9_YEAST | P38811 saccharomyc |
| 39 | 31 | 59.6 | 159 | 1 | YIB6_YEAST | P40548 saccharomyc |
| 40 | 31 | 59.6 | 193 | 1 | INF1_CHICK | P42165 gallus gall |
| 41 | 31 | 59.6 | 193 | 1 | INF3_CHICK | Q90872 gallus gall |
| 42 | 31 | 59.6 | 229 | 1 | SOML_TETMU | Q9i9h4 tetraodon m |
| 43 | 31 | 59.6 | 231 | 1 | SOM1_SPAAU | P54863 sparus aura |
| 44 | 31 | 59.6 | 231 | 1 | SOM2_SPAAU | P79894 sparus aura |
| 45 | 31 | 59.6 | 231 | 1 | SOML_SCIOC | Q9ygk7 sciaenops o |

ALIGNMENTS

RESULT 1
Y035_TREPA
ID Y035_TREPA STANDARD; PRT; 238 AA.
AC O83078;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Probable metal transport system ATP-binding protein TP0035.
GN TP0035.
OS Treponema pallidum.
OC Bacteria; Spirochaetales; Spirochaetaceae; Treponema.
OX NCBI_TaxID=160;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=NICHOLS;
RX MEDLINE=98332770; PubMed=9665876;
RA Fraser C.M., Norris S.J., Weinstock G.M., White O., Sutton G.G.,
RA Dodson R., Gwinn M., Hickey E.K., Clayton R., Ketchum K.A.,
RA Sodergren E., Hardham J.M., McLeod M.P., Salzberg S., Peterson J.,
RA Khalak H., Richardson D., Howell J.K., Chidambaram M., Utterback T.,
RA McDonald L., Artiach P., Bowman C., Cotton M.D., Fujii C., Garland S.,
RA Hatch B., Horst K., Roberts K., Sandusky M., Weidman J., Smith H.O.,
RA Venter J.C.;
RT "Complete genome sequence of Treponema pallidum, the syphilis
RT spirochete.";
RL Science 281:375-388(1998).
CC -!- FUNCTION: PART OF AN ATP-DRIVEN TRANSPORT SYSTEM
CC TP0034/TP0035/TP0036 FOR A METAL. PROBABLY RESPONSIBLE FOR ENERGY
CC COUPLING TO THE TRANSPORT SYSTEM.
CC -!- SUBCELLULAR LOCATION: Inner membrane-associated (Potential).
CC -!- SIMILARITY: BELONGS TO THE ABC TRANSPORTER FAMILY.
CC ----------------------------------------------------------------------
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CC ----------------------------------------------------------------------
DR EMBL; AE001188; AAC65030.1; -.
DR TIGR; TP0035; -.
DR InterPro; IPR003439; ABC_transportr.
DR InterPro; IPR001687; ATP_GTP_A.
DR Pfam; PF00005; ABC_tran; 1.
DR PROSITE; PS00211; ABC_TRANSPORTER; FALSE_NEG.
KW Hypothetical protein; Transport; Inner membrane; ATP-binding;
KW Complete proteome.
FT NP_BIND 44 51 ATP (POTENTIAL).
SQ SEQUENCE 238 AA; 26460 MW; 673E7B4882BE4D29 CRC64;

Query Match 71.2%; Score 37; DB 1; Length 238;
Best Local Similarity 80.0%; Pred. No. 15;
Matches 8; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

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Qy       3 LLKLLLKLLK 12
           |:||:|||||
Db      53 LVKLVLKLLK 62


RESULT   2
LP61_EIMTE
ID   LP61_EIMTE     STANDARD;      PRT;   255 AA.
AC   P15714;
DT   01-APR-1990 (Rel. 14, Created)
DT   01-APR-1990 (Rel. 14, Last sequence update)
DT   01-FEB-1994 (Rel. 28, Last annotation update)
DE   Antigen LPMC-61 (Fragment).
OS   Eimeria tenella.
OC   Eukaryota; Alveolata; Apicomplexa; Coccidia; Eimeriida; Eimeriidae;
OC   Eimeria.
OX   NCBI_TaxID=5802;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Sporozoite;
RX   MEDLINE=90348718; PubMed=2200963;
RA   Ko C., Smith C.K. II, McDonell M.;
RT   "Identification and characterization of a target antigen of a
RT   monoclonal antibody directed against Eimeria tenella merozoites.";
RL   Mol. Biochem. Parasitol. 41:53-64(1990).
CC   -!- FUNCTION: UNKNOWN. THE GLN-RICH TANDEM REPEATS MAY BE IMPORTANT
CC       FOR AN UNKNOWN ASPECT OF THE PARASITIC LIFE CYCLE. MAY BE AN
CC       IMPORTANT IMMUNOGEN.
CC   -!- SUBUNIT: MAY BE COVALENTLY LINKED BY DISULFIDE BONDS TO OTHER
CC       POLYPEPTIDES TO FORM THE 80 kDa ANTIGEN.
CC   -!- DEVELOPMENTAL STAGE: PRESENT IN ALL STAGES THROUGHOUT THE
CC       SPORULATION OF THE OOCYSTS AND IN THE SPOROZOITES FOLLOWING
CC       EXCYSTATION.
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M30933; AAA29079.1; -.
DR   PIR; A60637; A60637.
KW   Antigen; Sporozoite; Repeat; Sporulation.
FT   NON_TER       1      1
FT   DOMAIN       18    210       12 X APPROXIMATE TANDEM REPEATS, GLN-
FT                                 RICH.
FT   REPEAT       18     48       1.
FT   REPEAT       49     57       2.
FT   REPEAT       58     65       3.
FT   REPEAT       66     78       4.
FT   REPEAT       79     90       5.
FT   REPEAT       91    103       6.
FT   REPEAT      104    140       7.
FT   REPEAT      141    152       8.
FT   REPEAT      153    164       9.
FT   REPEAT      165    172       10.
FT   REPEAT      173    192       11.
FT   REPEAT      193    210       12.
FT   NON_TER     255    255
SQ   SEQUENCE   255 AA;  31267 MW;  8C5E6005FFFC2DB3 CRC64;


  Query Match             71.2%;  Score 37;  DB 1;  Length 255;
  Best Local Similarity   81.8%;  Pred. No. 16;
  Matches    9;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLL 11
           :|||||||  ||
Db       2 RLLLKLLLLLL 12


RESULT   3
EAG_BACSU
ID   EAG_BACSU      STANDARD;      PRT;   143 AA.
AC   P06630;
DT   01-JAN-1988 (Rel. 06, Created)
DT   01-JAN-1988 (Rel. 06, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Hypothetical 16.4 kDa protein in SPO0E 3'region.
GN   EAG.
OS   Bacillus subtilis.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group;
OC   Bacillus/Staphylococcus group; Bacillus.
OX   NCBI_TaxID=1423;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=168;
RX   MEDLINE=88260878; PubMed=2838724;
RA   Perego M., Hoch J.A.;
RT   "Isolation and sequence of the spo0E gene: its role in initiation of
RT   sporulation in Bacillus subtilis.";
RL   Mol. Microbiol. 1:125-132(1987).
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; Y00526; CAA68584.1; -.
DR   EMBL; Z99111; CAB13238.1; -.
DR   PIR; S03747; S03747.
DR   SubtiList; BG10770; eag.
KW   Hypothetical protein; Sporulation; Complete proteome.
SQ   SEQUENCE   143 AA;  16429 MW;  D7410B50963D7A75 CRC64;


  Query Match             69.2%;  Score 36;  DB 1;  Length 143;
  Best Local Similarity   63.6%;  Pred. No. 14;
  Matches    7;  Conservative    3;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLLK 12
           ||||:||: :|
Db     114 LLLKMLLRFIK 124


RESULT   4
OTOF_HUMAN
ID   OTOF_HUMAN     STANDARD;      PRT;  1997 AA.
AC   Q9HC10; Q9HC09; Q9Y650; Q9HC08;
DT   01-MAR-2002 (Rel. 41, Created)
DT   01-MAR-2002 (Rel. 41, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Otoferlin (Fer-1 like protein 2).
GN   OTOF OR FER1L2.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORMS 1; 2 AND 3), AND ALTERNATIVE SPLICING.
RC   TISSUE=Brain;
RX   MEDLINE=20395831; PubMed=10903124;
RA   Yasunaga S., Grati M., Chardenoux S., Smith T.N., Friedman T.B.,
RA   Lalwani A.K., Wilcox E.R., Petit C.;
RT   "OTOF encodes multiple long and short isoforms: genetic evidence that
RT   the long ones underlie recessive deafness DFNB9.";
RL   Am. J. Hum. Genet. 67:591-600(2000).
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORM 4).
RC   TISSUE=Fetal;
RX   MEDLINE=99206603; PubMed=10192385;
```

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RA   Yasunaga S., Grati M., Cohen-Salmon M., El-Amraoui A., Mustapha M.,
RA   Salem N., El-Zir E., Loiselet J., Petit C.;
RT   "A mutation in OTOF, encoding otoferlin, a FER-1-like protein, causes
RT   DFNB9, a nonsyndromic form of deafness.";
RL   Nat. Genet. 21:363-369(1999).
CC   -!- FUNCTION: Might be involved in the Ca(2+)-triggered synaptic
CC       vesicle-plasma membrane fusion.
CC   -!- SUBCELLULAR LOCATION: Type II membrane protein (By similarity).
CC   -!- ALTERNATIVE PRODUCTS: at least 4 isoforms; 1/long (shown here),
CC       2/short-1, 3/short-2 and 4/short-3; are produced by alternative
CC       splicing.
CC   -!- TISSUE SPECIFICITY: Isoform 1 and isoform 3 are found in adult
CC       brain. Isoform 2 is expressed in the fetus and in adult brain,
CC       heart, placenta, skeletal muscle and kidney.
CC   -!- DISEASE: Defects in OTOF are the cause of nonsyndromic autosomal
CC       recessive deafness 9 (DFNB9).
CC   -!- SIMILARITY: BELONGS TO THE FERLIN FAMILY.
CC   -!- SIMILARITY: CONTAINS 4 C2 DOMAINS.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; AF183185; AAG12991.1; -.
DR   EMBL; AF183186; AAG12992.1; -.
DR   EMBL; AF183187; AAG17468.1; -.
DR   EMBL; AF107403; AAD26117.1; -.
DR   HSSP; P04410; 1A25.
DR   MIM; 603681; -.
DR   MIM; 601071; -.
DR   InterPro; IPR000008; C2.
DR   Pfam; PF00168; C2; 4.
DR   PRINTS; PR00360; C2DOMAIN.
DR   SMART; SM00239; C2; 6.
DR   PROSITE; PS00499; C2_DOMAIN_1; 2.
DR   PROSITE; PS50004; C2_DOMAIN_2; 4.
KW   Transmembrane; Repeat; Alternative splicing; Deafness.
FT   DOMAIN       1   1963       CYTOPLASMIC (POTENTIAL).
FT   TRANSMEM  1964   1984       POTENTIAL.
FT   DOMAIN    1985   1997       EXTRACELLULAR (POTENTIAL).
FT   DOMAIN     241    338       C2 DOMAIN 1.
FT   DOMAIN     404    514       C2 DOMAIN 2.
FT   DOMAIN     947   1052       C2 DOMAIN 3.
FT   DOMAIN    1479   1577       C2 DOMAIN 4.
FT   DOMAIN    1303   1310       POLY-LYS.
FT   DOMAIN    1314   1320       POLY-GLU.
FT   DOMAIN    1965   1983       POLY-LEU.
FT   VARSPLIC     1    747       MISSING (IN ISOFORM 2 AND ISOFORM 4).
FT   VARSPLIC  1245   1264       MISSING (IN ISOFORM 2 AND ISOFORM 4).
FT   VARSPLIC     1    690       MISSING (IN ISOFORM 3).
FT   VARSPLIC   691    738       MRPQVTDRNYFHLPYLERKPCIYIKSWWPDQRRRLYNANIM
FT                               DHIADKL -> MMTDTQDGPSESSQIMRSLTLLINREEAFG
FT                               EAGEAGLWPSITHTPDSQ (IN ISOFORM 3).
FT   VARSPLIC  1943   1997       SFIWFLNPLKSARYFLWHTYRWLLLKLLLLLLLLLLLALFL
FT                               YSVPGYLVKKILGA -> AFVWFLNPLKSIKYLICTRYKWL
FT                               IIKIVLALLGLLMLGLFLYSLPGYMVKKLLGA (IN
FT                               ISOFORM 2).
FT   CONFLICT  1088   1088       P -> L (IN REF. 1; AAG12991).
SQ   SEQUENCE  1997 AA;  226735 MW;  39D10CB5220638AE CRC64;
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  Query Match             67.3%;  Score 35;  DB 1;  Length 1997;
  Best Local Similarity   90.0%;  Pred. No. 2.4e+02;
  Matches    9;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLL 11
           ||||||| ||
Db    1965 LLLKLLLLLL 1974
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RESULT   5
RPSE_CLOAB
ID   RPSE_CLOAB     STANDARD;      PRT;   235 AA.
AC   P33657;
DT   01-FEB-1994 (Rel. 28, Created)
DT   01-OCT-1994 (Rel. 30, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   RNA polymerase sigma-E factor.
GN   SIGE OR CAC1695.
OS   Clostridium acetobutylicum.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group; Clostridiaceae;
OC   Clostridium.
OX   NCBI_TaxID=1488;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 824 / DSM 792 / VKM B-1787;
RX   MEDLINE=95189110; PubMed=7883192;
RA   Wong J., Sass C., Bennett G.N.;
RT   "Sequence and arrangement of genes encoding sigma factors in
RT   Clostridium acetobutylicum ATCC 824.";
RL   Gene 153:89-92(1995).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 824 / DSM 792 / VKM B-1787;
RA   Santangelo J.D., Kuhn A., Treuner A., Durre P.;
RT   "Sporulation and time course expression of sigma factor homologous
RT   genes in Clostridium acetobutylicum.";
RL   Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 824 / DSM 792 / VKM B-1787;
RX   MEDLINE=21359325; PubMed=11466286;
RA   Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q.,
RA   Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,
RA   Tatusov R.L., Sabathe F., Doucette-Stamm L., Soucaille P., Daly M.J.,
RA   Bennett G.N., Koonin E.V., Smith D.R.;
RT   "Genome sequence and comparative analysis of the solvent-producing
RT   bacterium Clostridium acetobutylicum.";
RL   J. Bacteriol. 183:4823-4838(2001).
RN   [4]
RP   SEQUENCE OF 46-235 FROM N.A.
RC   STRAIN=ATCC 824 / DSM 792 / VKM B-1787;
RX   MEDLINE=95050216; PubMed=7961408;
RA   Sauer U., Treuner A., Buchholz M., Santangelo J.D., Durre P.;
RT   "Sporulation and primary sigma factor homologous genes in Clostridium
RT   acetobutylicum.";
RL   J. Bacteriol. 176:6572-6582(1994).
CC   -!- FUNCTION: THE SIGMA FACTOR IS AN INITIATION FACTOR THAT PROMOTES
CC       ATTACHMENT OF THE RNA POLYMERASE TO SPECIFIC INITIATION SITES AND
CC       THEN IS RELEASED. THIS SIGMA FACTOR IS RESPONSIBLE FOR THE
CC       EXPRESSION OF SPORULATION SPECIFIC GENES (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE SIGMA-70 FACTOR FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U07420; AAC43309.1; -.
DR   EMBL; Z23079; CAA80617.1; -.
DR   EMBL; AE007679; AAK79661.1; -.
DR   PIR; S34309; S34309.
DR   HSSP; P00579; 1SIG.
DR   InterPro; IPR000943; Sigma_70.
DR   Pfam; PF00140; sigma70; 1.
DR   PROSITE; PS00715; SIGMA70_1; 1.
DR   PROSITE; PS00716; SIGMA70_2; 1.
KW   Transcription regulation; Sigma factor; DNA-directed RNA polymerase;
KW   DNA-binding; Sporulation; Complete proteome.
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FT   DOMAIN       82     95       POLYMERASE CORE BINDING (POTENTIAL).
FT   DNA_BIND     202    221      H-T-H MOTIF (BY SIMILARITY).
FT   CONFLICT     147    147      L -> P (IN REF. 4).
SQ   SEQUENCE   235 AA;  26969 MW;  C726E18E6C93A903 CRC64;


  Query Match             65.4%;  Score 34;  DB 1;  Length 235;
  Best Local Similarity   72.7%;  Pred. No. 48;
  Matches    8;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLL 11
             | ||:|| |||
Db       2 KFLLRLLSKLL 12


RESULT   6
XTMB_BACSU
ID   XTMB_BACSU     STANDARD;      PRT;   433 AA.
AC   P39786;
DT   01-FEB-1995 (Rel. 31, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   PBSX phage terminase large subunit.
GN   XTMB.
OS   Bacillus subtilis.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group;
OC   Bacillus/Staphylococcus group; Bacillus.
OX   NCBI_TaxID=1423;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=168;
RA   Krogh S., O'Reilly M., Nolan N., Devine K.M.;
RL   Submitted (MAR-1996) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 1-76 FROM N.A.
RC   STRAIN=168 / SO113;
RX   MEDLINE=94364963; PubMed=8083174;
RA   McDonnell G.E., Wood H., Devine K.M., McConnell D.J.;
RT   "Genetic control of bacterial suicide: regulation of the induction of
RT   PBSX in Bacillus subtilis.";
RL   J. Bacteriol. 176:5820-5830(1994).
CC   -!- FUNCTION: FUNCTION AS A TERMINASE.
CC   -!- SUBUNIT: DIMER OF A SMALL AND A LARGE SUBUNIT (POTENTIAL).
CC   -!- SIMILARITY: STRONG, TO B.SUBTILIS YQAT.
CC   -!- SIMILARITY: TO LARGE SUBUNIT OF B.SUBTILIS PHAGE SPP1 TERMINASE.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; Z70177; CAA94059.1; -.
DR   EMBL; Z34287; CAA84048.1; -.
DR   EMBL; Z99110; CAB13115.1; -.
DR   PIR; S47115; S47115.
DR   SubtiList; BG11000; xtmB.
KW   DNA packaging; Complete proteome.
SQ   SEQUENCE   433 AA;  51150 MW;  471FC77DFEA2CA10 CRC64;


  Query Match             65.4%;  Score 34;  DB 1;  Length 433;
  Best Local Similarity   77.8%;  Pred. No. 85;
  Matches    7;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       4 LKLLLKLLK 12
             ||::|||||
Db      38 LKIVLKLLK 46


RESULT   7
DPOL_NPVAC
ID   DPOL_NPVAC     STANDARD;      PRT;   984 AA.
AC   P18131;
DT   01-NOV-1990 (Rel. 16, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   15-DEC-1998 (Rel. 37, Last annotation update)
DE   DNA polymerase (EC 2.7.7.7).
GN   POL.
OS   Autographa californica nuclear polyhedrosis virus (AcMNPV).
OC   Viruses; dsDNA viruses, no RNA stage; Baculoviridae;
OC   Nucleopolyhedrovirus.
OX   NCBI_TaxID=46015;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=L1;
RX   MEDLINE=89073763; PubMed=3059678;
RA   Tomalski M.D., Wu J.G., Miller L.K.;
RT   "The location, sequence, transcription, and regulation of a
RT   baculovirus DNA polymerase gene.";
RL   Virology 167:591-600(1988).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C6;
RX   MEDLINE=94303173; PubMed=8030224;
RA   Ayres M.D., Howard S.C., Kuzio J., Lopez-Ferber M., Possee R.D.;
RT   "The complete DNA sequence of Autographa californica nuclear
RT   polyhedrosis virus.";
RL   Virology 202:586-605(1994).
CC   -!- CATALYTIC ACTIVITY: N deoxynucleoside triphosphate = N diphosphate
CC       + {DNA}(N).
CC   -!- SIMILARITY: BELONGS TO DNA POLYMERASE TYPE-B FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M20744; AAA46692.1; -.
DR   EMBL; L22858; AAA66695.1; -.
DR   PIR; A31832; DJNVCP.
DR   InterPro; IPR002064; DNA_pol_B.
DR   Pfam; PF00136; DNA_pol_B; 1.
DR   Pfam; PF03104; DNA_pol_B_exo; 1.
DR   PRINTS; PR00106; DNAPOLB.
DR   SMART; SM00486; POLBc; 1.
DR   PROSITE; PS00116; DNA_POLYMERASE_B; 1.
KW   Transferase; DNA-directed DNA polymerase; DNA replication;
KW   DNA-binding; Early protein.
FT   DOMAIN       724    727      POLY-LYS.
FT   DOMAIN       946    960      POLY-ASP.
FT   CONFLICT     830    830      R -> W (IN REF. 1).
SQ   SEQUENCE   984 AA;  114307 MW;  156ABB6BA1B45A21 CRC64;


  Query Match             65.4%;  Score 34;  DB 1;  Length 984;
  Best Local Similarity   70.0%;  Pred. No. 1.8e+02;
  Matches    7;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLL 11
             :::|||||||
Db     566 IVVKLLLKLL 575


RESULT   8
DPOL_NPVBM
ID   DPOL_NPVBM     STANDARD;      PRT;   986 AA.
AC   P41712; O92430;
DT   01-NOV-1995 (Rel. 32, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   15-DEC-1998 (Rel. 37, Last annotation update)
```

```
DE   DNA polymerase (EC 2.7.7.7).
GN   POL.
OS   Bombyx mori nuclear polyhedrosis virus (BmNPV).
OC   Viruses; dsDNA viruses, no RNA stage; Baculoviridae;
OC   Nucleopolyhedrovirus.
OX   NCBI_TaxID=10458;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95133178; PubMed=7831799;
RA   Chaeychomsri S., Ikeda M., Kobayashi M.;
RT   "Nucleotide sequence and transcriptional analysis of the DNA
RT   polymerase gene of Bombyx mori nuclear polyhedrosis virus.";
RL   Virology 206:435-447(1995).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=T3;
RA   Gomi S., Majima K., Maeda S.;
RT   "Sequence analysis of the genome of Bombyx mori
RT   nucleopolyhedrovirus.";
RL   Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- CATALYTIC ACTIVITY: N deoxynucleoside triphosphate = N diphosphate
CC       + {DNA}(N).
CC   -!- SIMILARITY: BELONGS TO DNA POLYMERASE TYPE-B FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D16231; BAA03756.1; -.
DR   EMBL; L33180; AAC63738.1; -.
DR   InterPro; IPR002064; DNA_pol_B.
DR   Pfam; PF00136; DNA_pol_B; 1.
DR   Pfam; PF03104; DNA_pol_B_exo; 1.
DR   PRINTS; PR00106; DNAPOLB.
DR   SMART; SM00486; POLBc; 1.
DR   PROSITE; PS00116; DNA_POLYMERASE_B; 1.
KW   Transferase; DNA-directed DNA polymerase; DNA replication;
KW   DNA-binding; Early protein.
FT   DOMAIN      724    727       POLY-LYS.
FT   DOMAIN      947    951       POLY-ASP.
FT   DOMAIN      954    959       POLY-ASP.
FT   CONFLICT    116    116       A -> S (IN REF. 1).
FT   CONFLICT    245    245       H -> Y (IN REF. 1).
FT   CONFLICT    250    250       H -> Y (IN REF. 1).
FT   CONFLICT    258    258       V -> I (IN REF. 1).
FT   CONFLICT    478    479       TA -> AG (IN REF. 1).
FT   CONFLICT    941    941       S -> G (IN REF. 1).
FT   CONFLICT    952    952       N -> NDN (IN REF. 1).
SQ   SEQUENCE   986 AA;  114418 MW;  503E39F4A0BCC125 CRC64;


  Query Match             65.4%;  Score 34;  DB 1;  Length 986;
  Best Local Similarity   70.0%;  Pred. No. 1.8e+02;
  Matches    7;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 LLLKLLLKLL 11
          :::|||||||
Db    566 IVVKLLLKLL 575


RESULT   9
LPL_BUCRP
ID   LPL_BUCRP      STANDARD;      PRT;    31 AA.
AC   Q53017;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   30-MAY-2000 (Rel. 39, Last annotation update)
DE   Leu operon leader peptide.
GN   LEUL OR LEUO.
OS   Buchnera aphidicola (subsp. Rhopalosiphum padi).
OG   Plasmid pRPE.
OC   Bacteria; Proteobacteria; gamma subdivision; Buchnera.
OX   NCBI_TaxID=98793;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95333198; PubMed=7608990;
RA   Bracho A.M., Martinez-Torres D., Moya A., Latorre A.;
RT   "Discovery and molecular characterization of a plasmid localized in
RT   Buchnera sp. bacterial endosymbiont of the aphid Rhopalosiphum
RT   padi.";
RL   J. Mol. Evol. 41:67-73(1995).
CC   -!- FUNCTION: THIS PROTEIN IS INVOLVED IN CONTROL OF THE BIOSYNTHESIS
CC       OF LEUCINE.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; X71612; CAA50613.1; -.
KW   Leader peptide; Leucine biosynthesis; Plasmid.
SQ   SEQUENCE   31 AA;  3920 MW;  4D3E5E1C31C85413 CRC64;


  Query Match             63.5%;  Score 33;  DB 1;  Length 31;
  Best Local Similarity   81.8%;  Pred. No. 11;
  Matches    9;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLLKLL 11
            |||| ||| ||
Db      8 KLLLLLLLYLL 18


RESULT  10
RNPA_MYCCA
ID   RNPA_MYCCA     STANDARD;      PRT;   109 AA.
AC   P43039;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Ribonuclease P protein component (EC 3.1.26.5) (RNaseP protein)
DE   (RNase P protein) (Protein C5).
GN   RNPA.
OS   Mycoplasma capricolum.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group; Mollicutes;
OC   Entomoplasmataceae.
OX   NCBI_TaxID=2095;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 27343;
RX   MEDLINE=94051609; PubMed=8233831;
RA   Miyata M., Sano K.-I., Okada R., Fukumura T.;
RT   "Mapping of replication initiation site in Mycoplasma capricolum
RT   genome by two-dimensional gel-electrophoretic analysis.";
RL   Nucleic Acids Res. 21:4816-4823(1993).
CC   -!- FUNCTION: RNaseP catalyzes the removal of the 5'-leader sequence
CC       from pre-tRNA to produce the mature 5'terminus. It can also
CC       cleave other RNA substrates such as 4.5S RNA. The protein
CC       component plays an auxiliary but essential role in vivo by binding
CC       to the 5'-leader sequence and broadening the substrate specificity
CC       of the ribozyme (By similarity).
CC   -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage of RNA, removing 5'-
CC       extra-nucleotide from tRNA precursor.
CC   -!- SUBUNIT: Consists of a catalytic RNA component (M1 or rnpB) and a
CC       protein subunit (By similarity).
CC   -!- SIMILARITY: BELONGS TO THE RNPA FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------------
DR   EMBL; D14982; BAA03619.1; -.
DR   HSSP; P25814; 1A6F.
DR   InterPro; IPR000100; Ribonuclease_P.
DR   Pfam; PF00825; Ribonuclease_P; 1.
DR   PROSITE; PS00648; RIBONUCLEASE_P; 1.
KW   Hydrolase; Nuclease; Endonuclease; tRNA processing; RNA-binding.
SQ   SEQUENCE   109 AA;  12900 MW;  ACF520A0982C0D12 CRC64;


  Query Match             63.5%;  Score 33;  DB 1;  Length 109;
  Best Local Similarity   70.0%;  Pred. No. 34;
  Matches    7;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       3 LLKLLLKLLK 12
           | |||:||:|
Db      97 LSKLLIKLIK 106


RESULT  11
DCAM_RAT
ID   DCAM_RAT       STANDARD;      PRT;   333 AA.
AC   P17708;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-JUL-1993 (Rel. 26, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   S-adenosylmethionine decarboxylase proenzyme (EC 4.1.1.50) (AdoMetDC)
DE   (SamDC) [Contains: S-adenosylmethionine decarboxylase alpha chain; S-
DE   adenosylmethionine decarboxylase beta chain].
GN   AMD1.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90215298; PubMed=2323572;
RA   Pulkka A., Keraenen M.R., Salmela A., Salmikangas P., Ihalainen R.,
RA   Pajunen A.;
RT   "Nucleotide sequence of rat S-adenosylmethionine decarboxylase cDNA.
RT   Comparison with an intronless rat pseudogene.";
RL   Gene 86:193-199(1990).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89034205; PubMed=2460457;
RA   Pajunen A., Crozat A., Jaenne O.A., Ihalainen R., Laitinen P.H.,
RA   Stanley B., Madhubala R., Pegg A.E.;
RT   "Structure and regulation of mammalian S-adenosylmethionine
RT   decarboxylase.";
RL   J. Biol. Chem. 263:17040-17049(1988).
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=92038054; PubMed=1936275;
RA   Pulkka A., Ihalainen R., Aatsinki J., Pajunen A.;
RT   "Structure and organization of the gene encoding rat S-
RT   adenosylmethionine decarboxylase.";
RL   FEBS Lett. 291:289-295(1991).
RN   [4]
RP   SEQUENCE FROM N.A.
RC   STRAIN=WISTAR; TISSUE=Spleen;
RX   MEDLINE=93300506; PubMed=8314573;
RA   Pulkka A., Ihalainen R., Suorsa A., Riviere M., Szpirer J.,
RA   Pajunen A.;
RT   "Structures and chromosomal localizations of two rat genes encoding
RT   S-adenosylmethionine decarboxylase.";
RL   Genomics 16:342-349(1993).
CC   -!- CATALYTIC ACTIVITY: S-adenosyl-L-methionine = (5-deoxy-5-
CC       adenosyl)(3-aminopropyl) methylsulfonium salt + CO(2).
CC   -!- COFACTOR: PYRUVOYL GROUP.
CC   -!- PATHWAY: DECARBOXYLATION OF S-ADENOSYLMETHIONINE PROVIDES THE
CC       AMINOPROPYL MOIETY REQUIRED FOR SPERMIDINE AND SPERMINE
CC       BIOSYNTHESIS FROM PUTRESCINE.
CC   -!- SUBUNIT: HETEROTETRAMER OF TWO ALPHA AND TWO BETA CHAINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE EUKARYOTIC ADOMETDC FAMILY.
CC   ---------------------------------------------------------------------------
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CC   ---------------------------------------------------------------------------
DR   EMBL; M34464; AAA40683.1; -.
DR   EMBL; M64274; AAA42105.1; -.
DR   EMBL; Z15109; CAA78814.1; -.
DR   EMBL; Z15122; CAA78814.1; JOINED.
DR   EMBL; Z15123; CAA78814.1; JOINED.
DR   PIR; JQ0439; DCRTDM.
DR   PIR; S18487; S18487.
DR   HSSP; P17707; 1JEN.
DR   InterPro; IPR001985; SAM_decarbox.
DR   Pfam; PF01536; SAM_decarbox; 1.
DR   ProDom; PD002379; SAM_decarbox; 1.
DR   PROSITE; PS01336; ADOMETDC; 1.
KW   Spermidine biosynthesis; Lyase; Decarboxylase; Pyruvate; Zymogen.
FT   CHAIN          1     67       S-ADENOSYLMETHIONINE DECARBOXYLASE BETA
FT                                 CHAIN.
FT   CHAIN         68    333       S-ADENOSYLMETHIONINE DECARBOXYLASE ALPHA
FT                                 CHAIN.
FT   SITE          67     68       CLEAVAGE (NONHYDROLYTIC).
FT   MOD_RES       68     68       CONVERTED TO A PYRUVOYL GROUP.
FT   ACT_SITE       8      8       IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                 SIMILARITY).
FT   ACT_SITE      11     11       IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                 SIMILARITY).
FT   ACT_SITE      82     82       IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                 SIMILARITY).
FT   CONFLICT       5      5       H -> P (IN REF. 2).
FT   CONFLICT     146    146       A -> G (IN REF. 1).
SQ   SEQUENCE   333 AA;  38137 MW;  9323E2D38BD8FEF1 CRC64;


  Query Match             63.5%;  Score 33;  DB 1;  Length 333;
  Best Local Similarity   72.7%;  Pred. No. 98;
  Matches    8;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLLK 12
           |||| |: |||
Db      86 LLLKALVPLLK 96


RESULT  12
DCAM_BOVIN
ID   DCAM_BOVIN     STANDARD;      PRT;   334 AA.
AC   P50243;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   S-adenosylmethionine decarboxylase proenzyme (EC 4.1.1.50) (AdoMetDC)
DE   (SamDC) [Contains: S-adenosylmethionine decarboxylase alpha chain; S-
DE   adenosylmethionine decarboxylase beta chain].
GN   AMD1.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE FROM N.A.
```

```
RA   Hill J.R., Morris D.R.;
RL   Submitted (XXX-1992) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 209-232 FROM N.A.
RX   MEDLINE=86304300; PubMed=3017942;
RA   Mach M., White M.W., Neubauer M., Degen J.L., Morris D.R.;
RT   "Isolation of a cDNA clone encoding S-adenosylmethionine
RT   decarboxylase. Expression of the gene in mitogen-activated
RT   lymphocytes.";
RL   J. Biol. Chem. 261:11697-11703(1986).
CC   -!- CATALYTIC ACTIVITY: S-adenosyl-L-methionine = (5-deoxy-5-
CC       adenosyl)(3-aminopropyl) methylsulfonium salt + CO(2).
CC   -!- COFACTOR: PYRUVOYL GROUP.
CC   -!- PATHWAY: DECARBOXYLATION OF S-ADENOSYLMETHIONINE PROVIDES THE
CC       AMINOPROPYL MOIETY REQUIRED FOR SPERMIDINE AND SPERMINE
CC       BIOSYNTHESIS FROM PUTRESCINE.
CC   -!- SUBUNIT: HETEROTETRAMER OF TWO ALPHA AND TWO BETA CHAINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE EUKARYOTIC ADOMETDC FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M95605; AAA30359.1; -.
DR   EMBL; M14289; AAA30360.1; -.
DR   HSSP; P17707; 1JEN.
DR   InterPro; IPR001985; SAM_decarbox.
DR   Pfam; PF01536; SAM_decarbox; 1.
DR   ProDom; PD002379; SAM_decarbox; 1.
DR   PROSITE; PS01336; ADOMETDC; 1.
KW   Spermidine biosynthesis; Lyase; Decarboxylase; Pyruvate; Zymogen.
FT   CHAIN         1     67       S-ADENOSYLMETHIONINE DECARBOXYLASE BETA
FT                                CHAIN.
FT   CHAIN        68    334       S-ADENOSYLMETHIONINE DECARBOXYLASE ALPHA
FT                                CHAIN.
FT   SITE         67     68       CLEAVAGE (NONHYDROLYTIC).
FT   MOD_RES      68     68       CONVERTED TO A PYRUVOYL GROUP.
FT   ACT_SITE      8      8       IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                SIMILARITY).
FT   ACT_SITE     11     11       IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                SIMILARITY).
FT   ACT_SITE     82     82       IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                SIMILARITY).
SQ   SEQUENCE   334 AA;  38364 MW;  D8AFB98C9DD8A1E9 CRC64;


  Query Match           63.5%;  Score 33;  DB 1;  Length 334;
  Best Local Similarity  72.7%;  Pred. No. 98;
  Matches    8;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLLK 12
           |||| |: |||
Db      86 LLLKALVPLLK 96


RESULT 13
DCAM_HUMAN
ID   DCAM_HUMAN     STANDARD;      PRT;   334 AA.
AC   P17707; Q9BWK4;
DT   01-AUG-1990 (Rel. 15, Created)
DT   01-AUG-1990 (Rel. 15, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   S-adenosylmethionine decarboxylase proenzyme (EC 4.1.1.50) (AdoMetDC)
DE   (SamDC) [Contains: S-adenosylmethionine decarboxylase alpha chain; S-
DE   adenosylmethionine decarboxylase beta chain].
GN   AMD1 OR AMD.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
RX   MEDLINE=89034205; PubMed=2460457;
RA   Pajunen A., Crozat A., Jaenne O.A., Ihalainen R., Laitinen P.H.,
RA   Stanley B., Madhubala R., Pegg A.E.;
RT   "Structure and regulation of mammalian S-adenosylmethionine
RT   decarboxylase.";
RL   J. Biol. Chem. 263:17040-17049(1988).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Choriocarcinoma;
RA   Strausberg R.;
RL   Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   MUTAGENESIS.
RX   MEDLINE=92011599; PubMed=1917972;
RA   Stanley B.A., Pegg A.E.;
RT   "Amino acid residues necessary for putrescine stimulation of human S-
RT   adenosylmethionine decarboxylase proenzyme processing and catalytic
RT   activity.";
RL   J. Biol. Chem. 266:18502-18506(1991).
RN   [4]
RP   X-RAY CRYSTALLOGRAPHY (2.25 ANGSTROMS).
RX   MEDLINE=99306040; PubMed=10378277;
RA   Ekstrom J.L., Mathews I.I., Stanley B.A., Pegg A.E., Ealick S.E.;
RT   "The crystal structure of human S-adenosylmethionine decarboxylase at
RT   2.25-A resolution reveals a novel fold.";
RL   Structure 7:583-595(1999).
CC   -!- CATALYTIC ACTIVITY: S-adenosyl-L-methionine = (5-deoxy-5-
CC       adenosyl)(3-aminopropyl) methylsulfonium salt + CO(2).
CC   -!- COFACTOR: PYRUVOYL GROUP.
CC   -!- ENZYME REGULATION: BOTH PROENZYME PROCESSING AND CATALYTIC
CC       ACTIVITY ARE STIMULATED BY PUTRESCINE.
CC   -!- PATHWAY: DECARBOXYLATION OF S-ADENOSYLMETHIONINE PROVIDES THE
CC       AMINOPROPYL MOIETY REQUIRED FOR SPERMIDINE AND SPERMINE
CC       BIOSYNTHESIS FROM PUTRESCINE.
CC   -!- SUBUNIT: HETEROTETRAMER OF TWO ALPHA AND TWO BETA CHAINS.
CC   -!- SIMILARITY: BELONGS TO THE EUKARYOTIC ADOMETDC FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M21154; AAA51716.1; -.
DR   EMBL; BC000171; AAH00171.1; -.
DR   PIR; A31786; DCHUDM.
DR   PDB; 1JEN; 01-JUN-99.
DR   MIM; 180980; -.
DR   InterPro; IPR001985; SAM_decarbox.
DR   Pfam; PF01536; SAM_decarbox; 1.
DR   ProDom; PD002379; SAM_decarbox; 1.
DR   PROSITE; PS01336; ADOMETDC; 1.
KW   Spermidine biosynthesis; Lyase; Decarboxylase; Pyruvate; Zymogen;
KW   3D-structure.
FT   CHAIN         1     67       S-ADENOSYLMETHIONINE DECARBOXYLASE BETA
FT                                CHAIN.
FT   CHAIN        68    334       S-ADENOSYLMETHIONINE DECARBOXYLASE ALPHA
FT                                CHAIN.
FT   SITE         67     68       CLEAVAGE (NONHYDROLYTIC).
FT   MOD_RES      68     68       CONVERTED TO A PYRUVOYL GROUP.
FT   ACT_SITE      8      8       IMPORTANT FOR CATALYTIC ACTIVITY.
FT   ACT_SITE     11     11       IMPORTANT FOR CATALYTIC ACTIVITY, AND
FT                                PUTRESCINE STIMULAION OF PROCESSING.
FT   ACT_SITE     82     82       IMPORTANT FOR CATALYTIC ACTIVITY.
FT   MUTAGEN       8      8       E->Q: LOSS OF ACTIVITY. NORMAL
FT                                PUTRESCINE-STIMULATED PROCESSING.
FT   MUTAGEN      11     11       E->Q: LOSS OF ACTIVITY. LOSS OF
```

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FT                                   PUTRESCINE-STIMULATED PROCESSING.
FT   MUTAGEN      15     15          E->Q: LITTLE EFFECT.
FT   MUTAGEN      49     49          C->A: LITTLE EFFECT.
FT   MUTAGEN      61     61          E->Q: LITTLE EFFECT.
FT   MUTAGEN      67     67          E->Q: LITTLE EFFECT.
FT   MUTAGEN      80     80          K->A: GREATLY REDUCED CATALYTIC
FT                                   ACTIVITY. NO PUTRESCINE-STIMULATED
FT                                   PROCESSING.
FT   MUTAGEN      82     82          C->A: LOSS OF ACTIVITY. GREATLY REDUCED
FT                                   PUTRESCINE-STIMULATED PROCESSING.
FT   MUTAGEN     226    226          C->A: LITTLE EFFECT.
FT   MUTAGEN     247    247          E->Q: LITTLE EFFECT.
FT   MUTAGEN     249    249          E->Q: LITTLE EFFECT.
FT   CONFLICT    146    146          G -> A (IN REF. 2).
SQ   SEQUENCE   334 AA;  38325 MW;  F78F93AAE28A92DC CRC64;


  Query Match             63.5%;  Score 33;  DB 1;  Length 334;
  Best Local Similarity   72.7%;  Pred. No. 98;
  Matches    8;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLLK 12
           |||| |: |||
Db      86 LLLKALVPLLK 96


RESULT  14
DCAM_MESAU
ID   DCAM_MESAU     STANDARD;      PRT;   334 AA.
AC   P28918;
DT   01-DEC-1992 (Rel. 24, Created)
DT   01-DEC-1992 (Rel. 24, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   S-adenosylmethionine decarboxylase proenzyme (EC 4.1.1.50) (AdoMetDC)
DE   (SamDC) [Contains: S-adenosylmethionine decarboxylase alpha chain; S-
DE   adenosylmethionine decarboxylase beta chain].
GN   AMD1.
OS   Mesocricetus auratus (Golden hamster).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC   Mesocricetus.
OX   NCBI_TaxID=10036;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Liver;
RX   MEDLINE=92223099; PubMed=1562599;
RA   Tekwani B.L., Stanley B.A., Pegg A.E.;
RT   "Nucleotide sequence of hamster S-adenosylmethionine decarboxylase
RT   cDNA.";
RL   Biochim. Biophys. Acta 1130:221-223(1992).
CC   -!- CATALYTIC ACTIVITY: S-adenosyl-L-methionine = (5-deoxy-5-
CC       adenosyl)(3-aminopropyl) methylsulfonium salt + CO(2).
CC   -!- COFACTOR: PYRUVOYL GROUP.
CC   -!- PATHWAY: DECARBOXYLATION OF S-ADENOSYLMETHIONINE PROVIDES THE
CC       AMINOPROPYL MOIETY REQUIRED FOR SPERMIDINE AND SPERMINE
CC       BIOSYNTHESIS FROM PUTRESCINE.
CC   -!- SUBUNIT: HETEROTETRAMER OF TWO ALPHA AND TWO BETA CHAINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE EUKARYOTIC ADOMETDC FAMILY.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC   use by non-profit institutions as long as its content is in no way
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X63861; CAA45343.1; -.
DR   PIR; S19871; DCHYDM.
DR   PIR; S22358; S22358.
DR   HSSP; P17707; 1JEN.
DR   InterPro; IPR001985; SAM_decarbox.
DR   Pfam; PF01536; SAM_decarbox; 1.
DR   ProDom; PD002379; SAM_decarbox; 1.
DR   PROSITE; PS01336; ADOMETDC; 1.
KW   Spermidine biosynthesis; Lyase; Decarboxylase; Pyruvate; Zymogen.
FT   CHAIN         1     67          S-ADENOSYLMETHIONINE DECARBOXYLASE BETA
FT                                   CHAIN.
FT   CHAIN        68    334          S-ADENOSYLMETHIONINE DECARBOXYLASE ALPHA
FT                                   CHAIN.
FT   SITE         67     68          CLEAVAGE (NONHYDROLYTIC).
FT   MOD_RES      68     68          CONVERTED TO A PYRUVOYL GROUP.
FT   ACT_SITE      8      8          IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                   SIMILARITY).
FT   ACT_SITE     11     11          IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                   SIMILARITY).
FT   ACT_SITE     82     82          IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                   SIMILARITY).
SQ   SEQUENCE   334 AA;  38313 MW;  FB519BCA749A1A7D CRC64;


  Query Match             63.5%;  Score 33;  DB 1;  Length 334;
  Best Local Similarity   72.7%;  Pred. No. 98;
  Matches    8;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLLK 12
           |||| |: |||
Db      86 LLLKALVPLLK 96


RESULT  15
DCM1_MOUSE
ID   DCM1_MOUSE     STANDARD;      PRT;   334 AA.
AC   P31154;
DT   01-JUL-1993 (Rel. 26, Created)
DT   01-JUL-1993 (Rel. 26, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   S-adenosylmethionine decarboxylase proenzyme 1 (EC 4.1.1.50) (AdoMetDC
DE   1) (SamdC 1) [Contains: S-adenosylmethionine decarboxylase 1 alpha
DE   chain; S-adenosylmethionine decarboxylase 1 beta chain].
GN   AMD1.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6; TISSUE=Brain;
RX   MEDLINE=93080592; PubMed=1449493;
RA   Waris T., Ihalainen R., Keraenen M.-R., Pajunen A.;
RT   "Molecular cloning of the mouse S-adenosylmethionine decarboxylase
RT   cDNA: specific protein binding to the conserved region of the mRNA
RT   5'-untranslated region.";
RL   Biochem. Biophys. Res. Commun. 189:424-429(1992).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=93345510; PubMed=8344293;
RA   Suzuki T., Sadakata Y., Kashiwagi K., Hoshino K., Kakinuma Y.,
RA   Shirahata A., Igarashi K.;
RT   "Overproduction of S-adenosylmethionine decarboxylase in
RT   ethylglyoxal-bis(guanylhydrazone)-resistant mouse FM3A cells.";
RL   Eur. J. Biochem. 215:247-253(1993).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=129/SVJ; TISSUE=Spleen;
RX   MEDLINE=20035739; PubMed=10570962;
RA   Nishimura K., Kashiwagi K., Matsuda Y., Jaenne O.A., Igarashi K.;
RT   "Gene structure and chromosomal localization of mouse
RT   S-adenosylmethionine decarboxylase.";
RL   Gene 238:343-350(1999).
CC   -!- CATALYTIC ACTIVITY: S-adenosyl-L-methionine = (5-deoxy-5-
CC       adenosyl)(3-aminopropyl) methylsulfonium salt + CO(2).
CC   -!- COFACTOR: PYRUVOYL GROUP.
CC   -!- PATHWAY: DECARBOXYLATION OF S-ADENOSYLMETHIONINE PROVIDES THE
CC       AMINOPROPYL MOIETY REQUIRED FOR SPERMIDINE AND SPERMINE
```

```
CC       BIOSYNTHESIS FROM PUTRESCINE.
CC   -!- SUBUNIT: HETEROTETRAMER OF TWO ALPHA AND TWO BETA CHAINS (BY
CC       SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE EUKARYOTIC ADOMETDC FAMILY.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; Z14986; CAA78710.1; -.
DR   EMBL; D12780; BAA02243.1; -.
DR   EMBL; AB025024; BAA83784.1; -.
DR   HSSP; P17707; 1JEN.
DR   MGD; MGI:88004; Amd1.
DR   InterPro; IPR001985; SAM_decarbox.
DR   Pfam; PF01536; SAM_decarbox; 1.
DR   ProDom; PD002379; SAM_decarbox; 1.
DR   PROSITE; PS01336; ADOMETDC; 1.
KW   Spermidine biosynthesis; Lyase; Decarboxylase; Pyruvate; Zymogen.
FT   CHAIN         1     67       S-ADENOSYLMETHIONINE DECARBOXYLASE 1 BETA
FT                                CHAIN.
FT   CHAIN        68    334       S-ADENOSYLMETHIONINE DECARBOXYLASE 1
FT                                ALPHA CHAIN.
FT   SITE         67     68       CLEAVAGE (NONHYDROLYTIC).
FT   MOD_RES      68     68       CONVERTED TO A PYRUVOYL GROUP.
FT   ACT_SITE      8      8       IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                SIMILARITY).
FT   ACT_SITE     11     11       IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                SIMILARITY).
FT   ACT_SITE     82     82       IMPORTANT FOR CATALYTIC ACTIVITY (BY
FT                                SIMILARITY).
SQ   SEQUENCE   334 AA;  38272 MW;  7950A1E9A9ACBD72 CRC64;


  Query Match             63.5%;  Score 33;  DB 1;  Length 334;
  Best Local Similarity   72.7%;  Pred. No. 98;
  Matches    8;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLLK 12
           |||| |: |||
Db      86 LLLKALVPLLK 96


Search completed: June 17, 2002, 12:44:45
Job time: 300 sec
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GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:39:25 ; Search time 73.61 Seconds
(without alignments)
28.202 Million cell updates/sec

Title: US-09-367-714A-23
Perfect score: 52
Sequence: 1 KLLLKLLLKLLK 12

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 562222 seqs, 172994929 residues

Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_19:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 40 | 76.9 | 2481 | 10 | Q9FR53 | Q9fr53 arabidopsis |
| 2 | 40 | 76.9 | 2513 | 10 | Q9LPM4 | Q9lpm4 arabidopsis |
| 3 | 37 | 71.2 | 137 | 16 | Q97MS6 | Q97ms6 clostridium |
| 4 | 36 | 69.2 | 53 | 8 | Q9BC70 | Q9bc70 sargassum p |
| 5 | 36 | 69.2 | 74 | 10 | Q94LQ5 | Q94lq5 oryza sativ |
| 6 | 36 | 69.2 | 237 | 4 | Q96LK7 | Q96lk7 homo sapien |
| 7 | 36 | 69.2 | 1107 | 5 | Q95XU2 | Q95xu2 caenorhabdi |
| 8 | 36 | 69.2 | 1453 | 8 | Q9G9H3 | Q9g9h3 schizophyll |
| 9 | 36 | 69.2 | 1896 | 10 | O64604 | O64604 arabidopsis |
| 10 | 35 | 67.3 | 263 | 16 | Q9CP24 | Q9cp24 pasteurella |
| 11 | 35 | 67.3 | 318 | 16 | Q9PI84 | Q9pi84 campylobact |
| 12 | 35 | 67.3 | 319 | 16 | O51049 | O51049 borrelia bu |
| 13 | 35 | 67.3 | 1230 | 4 | Q9Y650 | Q9y650 homo sapien |
| 14 | 35 | 67.3 | 1307 | 4 | Q9HC09 | Q9hc09 homo sapien |
| 15 | 35 | 67.3 | 1997 | 4 | Q9HC10 | Q9hc10 homo sapien |
| 16 | 35 | 67.3 | 3268 | 3 | Q03280 | Q03280 saccharomyc |
| 17 | 34 | 65.4 | 48 | 5 | Q9GR26 | Q9gr26 aphidius co |
| 18 | 34 | 65.4 | 53 | 12 | O55758 | O55758 chilo iride |
| 19 | 34 | 65.4 | 68 | 12 | Q91FX6 | Q91fx6 chilo iride |
| 20 | 34 | 65.4 | 191 | 17 | Q97WI9 | Q97wi9 sulfolobus |
| 21 | 34 | 65.4 | 208 | 16 | Q9AC69 | Q9ac69 staphylococ |
| 22 | 34 | 65.4 | 213 | 10 | O81431 | O81431 arabidopsis |
| 23 | 34 | 65.4 | 282 | 16 | Q9ZLZ4 | Q9zlz4 helicobacte |
| 24 | 34 | 65.4 | 289 | 17 | Q96ZX0 | Q96zx0 sulfolobus |
| 25 | 34 | 65.4 | 386 | 17 | Q973P4 | Q973p4 sulfolobus |
| 26 | 34 | 65.4 | 552 | 17 | O58557 | O58557 pyrococcus |
| 27 | 34 | 65.4 | 662 | 16 | Q97RB1 | Q97rb1 streptococc |
| 28 | 34 | 65.4 | 707 | 16 | Q9PE08 | Q9pe08 xylella fas |
| 29 | 34 | 65.4 | 1234 | 5 | Q9VZ85 | Q9vz85 drosophila |
| 30 | 34 | 65.4 | 1300 | 5 | Q9NKD6 | Q9nkd6 drosophila |
| 31 | 34 | 65.4 | 1360 | 5 | Q9NDI1 | Q9ndi1 drosophila |
| 32 | 34 | 65.4 | 1712 | 5 | O96160 | O96160 plasmodium |
| 33 | 34 | 65.4 | 2447 | 5 | Q9NEF9 | Q9nef9 drosophila |
| 34 | 33 | 63.5 | 45 | 12 | Q91FK0 | Q91fk0 chilo iride |
| 35 | 33 | 63.5 | 84 | 16 | Q99YW0 | Q99yw0 streptococc |
| 36 | 33 | 63.5 | 84 | 16 | Q97MQ6 | Q97mq6 clostridium |
| 37 | 33 | 63.5 | 91 | 16 | O51404 | O51404 borrelia bu |
| 38 | 33 | 63.5 | 100 | 5 | Q9NLV3 | Q9nlv3 leishmania |
| 39 | 33 | 63.5 | 100 | 16 | Q932M8 | Q932m8 staphylococ |
| 40 | 33 | 63.5 | 144 | 5 | P90741 | P90741 caenorhabdi |
| 41 | 33 | 63.5 | 144 | 8 | Q9G905 | Q9g905 ochromonas |
| 42 | 33 | 63.5 | 162 | 8 | Q950Q3 | Q950q3 spizellomyc |
| 43 | 33 | 63.5 | 187 | 16 | Q97S99 | Q97s99 streptococc |
| 44 | 33 | 63.5 | 191 | 17 | Q9YFW9 | Q9yfw9 aeropyrum p |
| 45 | 33 | 63.5 | 223 | 16 | Q99RZ4 | Q99rz4 staphylococ |

ALIGNMENTS

RESULT 1
Q9FR53
ID Q9FR53 PRELIMINARY; PRT; 2481 AA.
AC Q9FR53;
DT 01-MAR-2001 (TrEMBLrel. 16, Created)
DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE PTOR.
GN TOR.
OS Arabidopsis thaliana (Mouse-ear cress).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX NCBI_TaxID=3702;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CV. COLUMBIA;
RA Menand B., Nussaume L., Meyer C., Desnos T., Bouchez D., Robaglia C.;
RT "Mutation in AtTOR affects embryo development.";
RL Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
DR EMBL; AF178967; AAG43423.1; -.
DR HSSP; P42345; 1FAP.
DR InterPro; IPR003151; FAT.
DR InterPro; IPR003152; FATC.
DR InterPro; IPR000403; PI3_PI4_kinase.
DR Pfam; PF02259; FAT; 1.
DR Pfam; PF02260; FATC; 1.
DR Pfam; PF00454; PI3_PI4_kinase; 1.
DR SMART; SM00146; PI3Kc; 1.
DR PROSITE; PS00915; PI3_4_KINASE_1; 1.
DR PROSITE; PS50290; PI3_4_KINASE_3; 1.
SQ SEQUENCE 2481 AA; 279187 MW; DA663EA9A9366F93 CRC64;

Query Match 76.9%; Score 40; DB 10; Length 2481;
Best Local Similarity 90.9%; Pred. No. 1.7e+02;
Matches 10; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 2 LLLKLLLKLLK 12

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Db    785 LLLGLLLKLLK 795


RESULT   2
Q9LPM4
ID   Q9LPM4      PRELIMINARY;      PRT;  2513 AA.
AC   Q9LPM4;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   F2J10.9 PROTEIN.
GN   F2J10.9.
OS   Arabidopsis thaliana (Mouse-ear cress).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC   eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX   NCBI_TaxID=3702;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. COLUMBIA;
RA   Sakano H., Liu S.X., Yu G., Lee J., Lenz C., Pham P., Toriumi M.,
RA   Chin C., Chiou J., Choi E., Chung M., Gonzalez A., Howng B., Liu A.,
RA   Vaysberg M., Altafi H., Brooks S., Buehler E., Chao Q., Conn L.,
RA   Conway A.B., Hansen N.F., Johnson-Hopson C., Khan S., Kim C., Lam B.,
RA   Miranda M., Nguyen M., Palm C., Shinn P., Southwick A., Davis R.W.,
RA   Ecker J.R., Federspiel N.A., Theologis A.;
RT   "The sequence of BAC F2J10 from Arabidopsis thaliana chromosome 1.";
RL   Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AC015445; AAF76442.1; -.
DR   HSSP; P42345; 1FAP.
DR   InterPro; IPR003151; FAT.
DR   InterPro; IPR003152; FATC.
DR   InterPro; IPR000403; PI3_PI4_kinase.
DR   Pfam; PF02259; FAT; 1.
DR   Pfam; PF02260; FATC; 1.
DR   Pfam; PF00454; PI3_PI4_kinase; 1.
DR   SMART; SM00146; PI3Kc; 1.
DR   PROSITE; PS00915; PI3_4_KINASE_1; 1.
DR   PROSITE; PS00916; PI3_4_KINASE_2; 1.
DR   PROSITE; PS50290; PI3_4_KINASE_3; 1.
SQ   SEQUENCE   2513 AA;  282911 MW;  A4B9740321AC5261 CRC64;


  Query Match             76.9%;  Score 40;  DB 10;  Length 2513;
  Best Local Similarity   90.9%;  Pred. No. 1.7e+02;
  Matches   10;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      2 LLLKLLLKLLK 12
          ||| |||||||
Db    797 LLLGLLLKLLK 807


RESULT   3
Q97MS6
ID   Q97MS6      PRELIMINARY;      PRT;   137 AA.
AC   Q97MS6;
DT   01-OCT-2001 (TrEMBLrel. 18, Created)
DT   01-OCT-2001 (TrEMBLrel. 18, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   UNCHARACTERIZED PROTEIN, YJE/RRF2 FAMILY.
GN   CAC0115.
OS   Clostridium acetobutylicum.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group; Clostridiaceae;
OC   Clostridium.
OX   NCBI_TaxID=1488;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 824 / DSM 792 / VKM B-1787;
RX   MEDLINE=21359325; PubMed=11466286;
RA   Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q.,
RA   Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I.,
RA   Tatusov R.L., Sabathe F., Doucette-Stamm L., Soucaille P., Daly M.J.,
RA   Bennett G.N., Koonin E.V., Smith D.R.;
RT   "Genome sequence and comparative analysis of the solvent-producing
RT   bacterium Clostridium acetobutylicum.";
RL   J. Bacteriol. 183:4823-4838(2001).
DR   EMBL; AE007524; AAK78100.1; -.
DR   InterPro; IPR000944; UPF0074.
DR   Pfam; PF02082; UPF0074; 1.
DR   ProDom; PD003632; UPF0074; 1.
DR   PROSITE; PS01332; UPF0074; 1.
KW   Complete proteome.
SQ   SEQUENCE   137 AA;  15645 MW;  C2400AA028BA5DFE CRC64;


  Query Match             71.2%;  Score 37;  DB 16;  Length 137;
  Best Local Similarity   66.7%;  Pred. No. 44;
  Matches    8;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLLKLLK 12
          : ||||| ||:|
Db     40 RFLLKLLRKLIK 51


RESULT   4
Q9BC70
ID   Q9BC70      PRELIMINARY;      PRT;    53 AA.
AC   Q9BC70;
DT   01-JUN-2001 (TrEMBLrel. 17, Created)
DT   01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   RIBULOSE BISPHOSPHATE CARBOXYLASE LARGE CHAIN (EC 4.1.1.39) (RUBISCO
DE   LARGE SUBUNIT) (FRAGMENT).
GN   RBCL.
OS   Sargassum polyceratium.
OG   Chloroplast.
OC   Eukaryota; stramenopiles; Phaeophyceae; Fucales; Sargassaceae;
OC   Sargassum.
OX   NCBI_TaxID=143167;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Phillips N., Fredericq S.;
RT   "Biogeographic and phylogenetic investigation of the pan-pacific genus
RT   Sargassum (Fucales, Phaeophyceae) with respect to the Gulf of Mexico
RT   species.";
RL   Gulf Mex. Sci. 18:1-11(2000).
CC   -!- FUNCTION: RUBISCO CATALYZES TWO REACTIONS: THE CARBOXYLATION OF D-
CC       RIBULOSE 1,5-BISPHOSPHATE, THE PRIMARY EVENT IN PHOTOSYNTHETIC
CC       CARBON DIOXIDE FIXATION, AS WELL AS THE OXIDATIVE FRAGMENTATION OF
CC       THE PENTOSE SUBSTRATE IN THE PHOTORESPIRATION PROCESS. BOTH
CC       REACTIONS OCCUR SIMULTANEOUSLY AND IN COMPETITION AT THE SAME
CC       ACTIVE SITE (BY SIMILARITY).
CC   -!- CATALYTIC ACTIVITY: D-RIBULOSE 1,5-BISPHOSPHATE + CO(2) = 2 3-
CC       PHOSPHO-D-GLYCERATE.
CC   -!- CATALYTIC ACTIVITY: D-RIBULOSE 1,5-BISPHOSPHATE + O(2) = 3-
CC       PHOSPHO-D-GLYCERATE + 2-PHOSPHOGLYCOLATE.
CC   -!- SUBUNIT: 8 LARGE CHAINS + 8 SMALL CHAINS (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: CHLOROPLAST (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE RUBISCO LARGE CHAIN FAMILY.
DR   EMBL; AF301225; AAK01554.1; -.
DR   InterPro; IPR000685; RuBisCO_large.
DR   Pfam; PF00016; RuBisCO_large; 1.
KW   Carbon dioxide fixation; Chloroplast; Lyase; Monooxygenase;
KW   Oxidoreductase; Photorespiration; Photosynthesis.
FT   NON_TER       1      1
SQ   SEQUENCE   53 AA;  6293 MW;  6E4CD0DCA9CE531B CRC64;


  Query Match             69.2%;  Score 36;  DB 8;  Length 53;
  Best Local Similarity   72.7%;  Pred. No. 29;
  Matches    8;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      2 LLLKLLLKLLK 12
          :|||| ||:||
Db     25 ILLKLQLKVLK 35
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RESULT   5
Q94LQ5
ID   Q94LQ5      PRELIMINARY;      PRT;    74 AA.
AC   Q94LQ5;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   HYPOTHETICAL 8.1 KDA PROTEIN.
OS   Oryza sativa (Rice).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
OC   Ehrhartoideae; Oryzeae; Oryza.
OX   NCBI_TaxID=4530;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. NIPPONBARE;
RA   Buell C.R., Yuan Q., Ouyang S., Moffat K.S., Hill J.N., Gansberger K.,
RA   Brenner M., Burgess S., Hance M., Shvartsbeyn M., Tsitrin T.,
RA   Riggs F., Hsiao J., Zismann V., Blunt S., Pai G., VanAken S.E.,
RA   Utterback T.R., Feldblyum T.V., Quackenbush J., Salzberg S.L.,
RA   White O., Fraser C.M.;
RT   "Oryza sativa chromosome 10 BAC OSJNBa0010C11 genomic sequence.";
RL   Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AC069300; AAK55450.1; -.
KW   Hypothetical protein.
SQ   SEQUENCE   74 AA;  8061 MW;  720EF0A677709444 CRC64;


  Query Match             69.2%;  Score 36;  DB 10;  Length 74;
  Best Local Similarity   66.7%;  Pred. No. 38;
  Matches    8;  Conservative    3;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           :|||:| |:|||
Db      50 RLLLRLWLQLLK 61


RESULT   6
Q96LK7
ID   Q96LK7      PRELIMINARY;      PRT;   237 AA.
AC   Q96LK7;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   CDNA FLJ25415 FIS, CLONE TST03443.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=TESTIS;
RA   Ishibashi T., Kanehori K., Yosida M., Watanabe S., Ishida S., Ono Y.,
RA   Hotuta T., Hiraoka S., Murakawa K., Takiguchi S., Kusano J.,
RA   Watanabe M., Fujimori K., Tanai H., Ishida M., Yamashita H., Chiba Y.,
RA   Suzuki Y., Hata H., Nakagawa K., Mizuno S., Morinaga M., Kawamura M.,
RA   Sugiyama T., Irie R., Otsuki T., Sato H., Nishikawa T., Sugiyama A.,
RA   Kawakami B., Nagai K., Isogai T., Sugano S.;
RT   "NEDO human cDNA sequencing project.";
RL   Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AK058144; BAB71684.1; -.
SQ   SEQUENCE   237 AA;  25880 MW;  58250E60EE1D3C5A CRC64;


  Query Match             69.2%;  Score 36;  DB 4;  Length 237;
  Best Local Similarity   75.0%;  Pred. No. 1e+02;
  Matches    9;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | | | ||||||
Db     105 KSLTKYLLKLLK 116


RESULT   7
Q95XU2
ID   Q95XU2      PRELIMINARY;      PRT;  1107 AA.
AC   Q95XU2;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   HYPOTHETICAL 127.2 KDA PROTEIN.
GN   Y67D8A.1.
OS   Caenorhabditis elegans.
OC   Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
OC   Rhabditidae; Peloderinae; Caenorhabditis.
OX   NCBI_TaxID=6239;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=BRISTOL N2;
RX   MEDLINE=99069613; PubMed=9851916;
RA   None;
RT   "Genome sequence of the nematode C. elegans: a platform for
RT   investigating biology. The C. elegans Sequencing Consortium.";
RL   Science 282:2012-2018(1998).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=BRISTOL N2;
RA   Edwards J., Lamar B., Minx P., Du H., Kemp K., Wohldmann P.,
RA   Walker C.;
RT   "The sequence of C. elegans cosmid Y67D8A.";
RL   Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=BRISTOL N2;
RA   Waterston R.;
RT   "Direct Submission.";
RL   Submitted (NOV-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AC024848; AAK68543.1; -.
KW   Hypothetical protein.
SQ   SEQUENCE   1107 AA;  127230 MW;  A27CD8BAF85A81FC CRC64;


  Query Match             69.2%;  Score 36;  DB 5;  Length 1107;
  Best Local Similarity   70.0%;  Pred. No. 3.9e+02;
  Matches    7;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       3 LLKLLLKLLK 12
           :|||||:|:|
Db     982 ILKLLLRLIK 991


RESULT   8
Q9G9H3
ID   Q9G9H3      PRELIMINARY;      PRT;  1453 AA.
AC   Q9G9H3;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   RIBOSOMAL PROTEIN S3.
GN   RPS3.
OS   Schizophyllum commune (Bracket fungus).
OG   Mitochondrion.
OC   Eukaryota; Fungi; Basidiomycota; Hymenomycetes; Homobasidiomycetes;
OC   Stereales; Schizophyllaceae; Schizophyllum.
OX   NCBI_TaxID=5334;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20377911; PubMed=10916154;
RA   Bullerwell C.E., Burger G., Lang B.F.;
RT   "A novel motif for identifying rps3 homologs in fungal mitochondrial
RT   genomes.";
RL   Trends Biochem. Sci. 25:363-365(2000).
RN   [2]
RP   SEQUENCE FROM N.A.
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RA   Forget L., Ustinova J., Wang Z., Huss V.A.R., Lang F.B.F.;
RT   "Hyaloraphidium curvatum: a linear mitochondrial genome, tRNA editing,
RT   and an evolutionary link to lower fungi.";
RL   Mol. Biol. Evol. 0:0-0(2001).
RN   [3]
RP   SEQUENCE FROM N.A.
RA   Lang F.B.F.;
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF402141; AAG10295.1; -.
KW   Mitochondrion.
SQ   SEQUENCE   1453 AA;  170925 MW;  C860EDB511721651 CRC64;


  Query Match             69.2%;  Score 36;  DB 8;  Length 1453;
  Best Local Similarity   66.7%;  Pred. No. 4.9e+02;
  Matches    8;  Conservative    3;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           |:| ||||:|:|:
Db     410 KVLNKLLLKILE 421


RESULT   9
O64604
ID   O64604      PRELIMINARY;      PRT;  1896 AA.
AC   O64604;
DT   01-AUG-1998 (TrEMBLrel. 07, Created)
DT   01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   F17O7.14 PROTEIN.
GN   F17O7.14.
OS   Arabidopsis thaliana (Mouse-ear cress).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC   eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX   NCBI_TaxID=3702;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. COLUMBIA;
RA   Vysotskaia V.S., Schwartz J.R., Toriumi M., Yu G., Kwan A., Oji O.,
RA   Liu S., Li J., Araujo R., Au M., Brendel V., Buehler E., Conway A.B.,
RA   Conway A.R., Dewar K., Feng J., Kim C., Kurtz D., Li Y., Palm C.J.,
RA   Shinn P., Sun H., Davis R.W., Ecker J.R., Federspiel N.A.,
RA   Theologis A.;
RT   "Arabidopsis thaliana chromosome 1 BAC F17O7 sequence.";
RL   Submitted (DEC-1997) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CV. COLUMBIA;
RA   Theologis A.;
RL   Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AC003671; AAC18812.1; -.
DR   InterPro; IPR002950; Josephin.
DR   InterPro; IPR000449; UBA.
DR   InterPro; IPR003903; UIM.
DR   Pfam; PF00627; UBA; 1.
DR   Pfam; PF02809; UIM; 1.
DR   SMART; SM00165; UBA; 1.
SQ   SEQUENCE   1896 AA;  210020 MW;  6659881792E52D8A CRC64;


  Query Match             69.2%;  Score 36;  DB 10;  Length 1896;
  Best Local Similarity   72.7%;  Pred. No. 6.2e+02;
  Matches    8;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLLK 12
           |||:|:|| ||
Db    1832 LLLELMLKTLK 1842


RESULT  10
Q9CP24
ID   Q9CP24      PRELIMINARY;      PRT;  263 AA.
AC   Q9CP24;
DT   01-JUN-2001 (TrEMBLrel. 17, Created)
DT   01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   YEBM.
GN   YEBM OR PM0242.
OS   Pasteurella multocida.
OC   Bacteria; Proteobacteria; gamma subdivision; Pasteurellaceae;
OC   Pasteurella.
OX   NCBI_TaxID=747;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=PM70;
RX   MEDLINE=21145866; PubMed=11248100;
RA   May B.J., Zhang Q., Li L.L., Paustian M.L., Whittam T.S., Kapur V.;
RT   "Complete genomic sequence of Pasteurella multocida Pm70.";
RL   Proc. Natl. Acad. Sci. U.S.A. 98:3460-3465(2001).
DR   EMBL; AE006058; AAK02326.1; -.
DR   InterPro; IPR003593; AAA.
DR   InterPro; IPR003439; ABC_transportr.
DR   InterPro; IPR001687; ATP_GTP_A.
DR   Pfam; PF00005; ABC_tran; 1.
DR   SMART; SM00382; AAA; 1.
KW   Complete proteome.
SQ   SEQUENCE   263 AA;  29399 MW;  2DA8CAE6EE1D4FCB CRC64;


  Query Match             67.3%;  Score 35;  DB 16;  Length 263;
  Best Local Similarity   88.9%;  Pred. No. 1.7e+02;
  Matches    8;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       3 LLKLLLKLL 11
           |||:|||||
Db      52 LLKVLLKLL 60


RESULT  11
Q9PI84
ID   Q9PI84      PRELIMINARY;      PRT;  318 AA.
AC   Q9PI84;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   PUTATIVE INTEGRAL MEMBRANE PROTEIN.
GN   CJ0421C.
OS   Campylobacter jejuni.
OC   Bacteria; Proteobacteria; epsilon subdivision; Campylobacter group;
OC   Campylobacter.
OX   NCBI_TaxID=197;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=NCTC 11168;
RX   MEDLINE=20150912; PubMed=10688204;
RA   Parkhill J., Wren B.W., Mungall K., Ketley J.M., Churcher C.,
RA   Basham D., Chillingworth T., Davies R.M., Feltwell T., Holroyd S.,
RA   Jagels K., Karlyshev A.V., Moule S., Pallen M.J., Penn C.W.,
RA   Quail M.A., Rajandream M.A., Rutherford K.M., van Vliet A.H.M.,
RA   Whitehead S., Barrell B.G.;
RT   "The genome sequence of the food-borne pathogen Campylobacter jejuni
RT   reveals hypervariable sequences.";
RL   Nature 403:665-668(2000).
DR   EMBL; AL139075; CAB74257.1; -.
KW   Complete proteome.
SQ   SEQUENCE   318 AA;  37371 MW;  E26F5D88241E2968 CRC64;


  Query Match             67.3%;  Score 35;  DB 16;  Length 318;
  Best Local Similarity   58.3%;  Pred. No. 2e+02;
  Matches    7;  Conservative    3;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           ||:|| : |:||
Db     233 KLILKQIAKILK 244
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RESULT  12
O51049
ID   O51049      PRELIMINARY;      PRT;   319 AA.
AC   O51049;
DT   01-JUN-1998 (TrEMBLrel. 06, Created)
DT   01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   CONSERVED HYPOTHETICAL INTEGRAL MEMBRANE PROTEIN.
GN   BB0017.
OS   Borrelia burgdorferi (Lyme disease spirochete).
OC   Bacteria; Spirochaetales; Spirochaetaceae; Borrelia.
OX   NCBI_TaxID=139;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 35210 / B31;
RX   MEDLINE=98065943; PubMed=9403685;
RA   Fraser C.M., Casjens S., Huang W.M., Sutton G.G., Clayton R.A.,
RA   Lathigra R., White O., Ketchum K.A., Dodson R., Hickey E.K., Gwinn M.,
RA   Dougherty B., Tomb J.-F., Fleischmann R.D., Richardson D.,
RA   Peterson J., Kerlavage A.R., Quackenbush J., Salzberg S., Hanson M.,
RA   van Vugt R., Palmer N., Adams M.D., Gocayne J.D., Weidman J.,
RA   Utterback T., Watthey L., McDonald L., Artiach P., Bowman C.,
RA   Garland S., Fujii C., Cotton M.D., Horst K., Roberts K., Hatch B.,
RA   Smith H.O., Venter J.C.;
RT   "Genomic sequence of a Lyme disease spirochaete, Borrelia
RT   burgdorferi.";
RL   Nature 390:580-586(1997).
DR   EMBL; AE001116; AAC66414.1; -.
DR   TIGR; BB0017; -.
DR   InterPro; IPR003740; DUF161.
DR   Pfam; PF02588; DUF161; 1.
KW   Complete proteome.
SQ   SEQUENCE   319 AA;  35178 MW;  289D8371C6209DBC CRC64;


  Query Match             67.3%;  Score 35;  DB 16;  Length 319;
  Best Local Similarity   66.7%;  Pred. No. 2e+02;
  Matches    8;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           |||| :|:| ||
Db      17 KLLLLILIKKLK 28


RESULT  13
Q9Y650
ID   Q9Y650      PRELIMINARY;      PRT;  1230 AA.
AC   Q9Y650;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   OTOFERLIN.
GN   OTOF.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99206603; PubMed=10192385;
RA   Yasunaga S., Grati M., Cohen-Salmon M., El-Amraoui A., Mustapha M.,
RA   Salem N., El-Zir E., Loiselet J., Petit C.;
RT   "A mutation in OTOF, encoding otoferlin, a FER-1-like protein, causes
RT   DFNB9, a nonsyndromic form of deafness.";
RL   Nat. Genet. 21:363-369(1999).
DR   EMBL; AF107403; AAD26117.1; -.
DR   HSSP; P04410; 1A25.
DR   InterPro; IPR000008; C2.
DR   Pfam; PF00168; C2; 2.
DR   PRINTS; PR00360; C2DOMAIN.
DR   SMART; SM00239; C2; 3.
DR   PROSITE; PS00499; C2_DOMAIN_1; 2.
DR   PROSITE; PS50004; C2_DOMAIN_2; 2.
SQ   SEQUENCE   1230 AA;  140496 MW;  2F0CA02F4877AB48 CRC64;


  Query Match             67.3%;  Score 35;  DB 4;  Length 1230;
  Best Local Similarity   90.0%;  Pred. No. 6.3e+02;
  Matches    9;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLL 11
           ||||||| ||
Db    1198 LLLKLLLLLL 1207


RESULT  14
Q9HC09
ID   Q9HC09      PRELIMINARY;      PRT;  1307 AA.
AC   Q9HC09;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   BRAIN OTOFERLIN SHORT ISOFORM.
GN   OTOF.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20395831; PubMed=10903124;
RA   Yasunaga S., Grati M., Chardenoux S., Smith T.N., Friedman T.B.,
RA   Lalwani A.K., Wilcox E.R., Petit C.;
RT   "OTOF encodes multiple long and short isoforms: genetic evidence that
RT   the long ones underlie recessive deafness DFNB9.";
RL   Am. J. Hum. Genet. 67:591-600(2000).
DR   EMBL; AF183186; AAG12992.1; -.
DR   HSSP; P04410; 1A25.
DR   InterPro; IPR000008; C2.
DR   Pfam; PF00168; C2; 2.
DR   PRINTS; PR00360; C2DOMAIN.
DR   SMART; SM00239; C2; 3.
DR   PROSITE; PS00499; C2_DOMAIN_1; UNKNOWN_1.
DR   PROSITE; PS50004; C2_DOMAIN_2; 2.
SQ   SEQUENCE   1307 AA;  148926 MW;  CCCF84A6464A5462 CRC64;


  Query Match             67.3%;  Score 35;  DB 4;  Length 1307;
  Best Local Similarity   90.0%;  Pred. No. 6.6e+02;
  Matches    9;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       2 LLLKLLLKLL 11
           ||||||| ||
Db    1275 LLLKLLLLLL 1284


RESULT  15
Q9HC10
ID   Q9HC10      PRELIMINARY;      PRT;  1997 AA.
AC   Q9HC10;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   BRAIN OTOFERLIN LONG ISOFORM.
GN   OTOF.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20395831; PubMed=10903124;
RA   Yasunaga S., Grati M., Chardenoux S., Smith T.N., Friedman T.B.,
RA   Lalwani A.K., Wilcox E.R., Petit C.;
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RT "OTOF encodes multiple long and short isoforms: genetic evidence that
RT the long ones underlie recessive deafness DFNB9.";
RL Am. J. Hum. Genet. 67:591-600(2000).
DR EMBL; AF183185; AAG12991.1; -.
DR HSSP; P04410; 1A25.
DR InterPro; IPR000008; C2.
DR Pfam; PF00168; C2; 4.
DR PRINTS; PR00360; C2DOMAIN.
DR SMART; SM00239; C2; 6.
DR PROSITE; PS00499; C2_DOMAIN_1; UNKNOWN_1.
DR PROSITE; PS50004; C2_DOMAIN_2; 4.
SQ SEQUENCE 1997 AA; 226751 MW; 24DE196371FB7385 CRC64;

Query Match 67.3%; Score 35; DB 4; Length 1997;
Best Local Similarity 90.0%; Pred. No. 9.5e+02;
Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 2 LLLKLLLKLL 11
||||||| ||
Db 1965 LLLKLLLLLL 1974

Search completed: June 17, 2002, 12:44:18
Job time: 293 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:38:20 ; Search time 34.71 Seconds
(without alignments)
8.444 Million cell updates/sec

Title: US-09-367-714A-23
Perfect score: 52
Sequence: 1 KLLLKLLLKLLK 12

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
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4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 40 | 76.9 | 14 | 2 | US-08-569-188-8 | Sequence 8, Appli |
| 2 | 40 | 76.9 | 14 | 5 | PCT-US94-07019-8 | Sequence 8, Appli |
| 3 | 40 | 76.9 | 16 | 2 | US-08-569-188-1 | Sequence 1, Appli |
| 4 | 40 | 76.9 | 16 | 2 | US-08-569-188-10 | Sequence 10, Appl |
| 5 | 40 | 76.9 | 16 | 2 | US-08-569-188-11 | Sequence 11, Appl |
| 6 | 40 | 76.9 | 16 | 2 | US-08-569-188-12 | Sequence 12, Appl |
| 7 | 40 | 76.9 | 16 | 5 | PCT-US94-07019-1 | Sequence 1, Appli |
| 8 | 40 | 76.9 | 16 | 5 | PCT-US94-07019-10 | Sequence 10, Appl |
| 9 | 40 | 76.9 | 16 | 5 | PCT-US94-07019-11 | Sequence 11, Appl |
| 10 | 40 | 76.9 | 16 | 5 | PCT-US94-07019-12 | Sequence 12, Appl |
| 11 | 40 | 76.9 | 17 | 2 | US-08-569-188-3 | Sequence 3, Appli |
| 12 | 40 | 76.9 | 17 | 2 | US-08-818-253-39 | Sequence 39, Appl |
| 13 | 40 | 76.9 | 17 | 4 | US-08-818-252-39 | Sequence 39, Appl |
| 14 | 40 | 76.9 | 17 | 5 | PCT-US94-07019-3 | Sequence 3, Appli |
| 15 | 40 | 76.9 | 18 | 2 | US-08-569-188-5 | Sequence 5, Appli |
| 16 | 40 | 76.9 | 18 | 5 | PCT-US94-07019-5 | Sequence 5, Appli |
| 17 | 40 | 76.9 | 22 | 1 | US-07-725-331-60 | Sequence 60, Appl |
| 18 | 40 | 76.9 | 22 | 5 | PCT-US91-05047-60 | Sequence 60, Appl |
| 19 | 40 | 76.9 | 23 | 2 | US-08-290-853-19 | Sequence 19, Appl |
| 20 | 40 | 76.9 | 26 | 1 | US-07-725-331-61 | Sequence 61, Appl |
| 21 | 40 | 76.9 | 26 | 5 | PCT-US91-05047-61 | Sequence 61, Appl |
| 22 | 40 | 76.9 | 30 | 1 | US-07-725-331-62 | Sequence 62, Appl |
| 23 | 40 | 76.9 | 30 | 5 | PCT-US91-05047-62 | Sequence 62, Appl |
| 24 | 40 | 76.9 | 36 | 1 | US-07-725-331-63 | Sequence 63, Appl |
| 25 | 40 | 76.9 | 36 | 5 | PCT-US91-05047-63 | Sequence 63, Appl |
| 26 | 40 | 76.9 | 40 | 2 | US-08-687-551-6 | Sequence 6, Appli |
| 27 | 38 | 73.1 | 21 | 1 | US-08-944-133-13 | Sequence 13, Appl |
| 28 | 37 | 71.2 | 14 | 1 | US-07-725-331-1 | Sequence 1, Appli |
| 29 | 37 | 71.2 | 14 | 5 | PCT-US91-05047-1 | Sequence 1, Appli |
| 30 | 37 | 71.2 | 16 | 2 | US-08-569-188-2 | Sequence 2, Appli |
| 31 | 37 | 71.2 | 16 | 2 | US-08-569-188-13 | Sequence 13, Appl |
| 32 | 37 | 71.2 | 16 | 5 | PCT-US94-07019-2 | Sequence 2, Appli |
| 33 | 37 | 71.2 | 16 | 5 | PCT-US94-07019-13 | Sequence 13, Appl |
| 34 | 37 | 71.2 | 17 | 2 | US-08-569-188-4 | Sequence 4, Appli |
| 35 | 37 | 71.2 | 17 | 2 | US-08-569-188-14 | Sequence 14, Appl |
| 36 | 37 | 71.2 | 17 | 5 | PCT-US94-07019-4 | Sequence 4, Appli |
| 37 | 37 | 71.2 | 17 | 5 | PCT-US94-07019-14 | Sequence 14, Appl |
| 38 | 37 | 71.2 | 18 | 2 | US-08-569-188-6 | Sequence 6, Appli |
| 39 | 37 | 71.2 | 18 | 2 | US-08-569-188-15 | Sequence 15, Appl |
| 40 | 37 | 71.2 | 18 | 4 | US-08-960-054A-12 | Sequence 12, Appl |
| 41 | 37 | 71.2 | 18 | 4 | US-08-958-993A-12 | Sequence 12, Appl |
| 42 | 37 | 71.2 | 18 | 4 | US-09-296-089-36 | Sequence 36, Appl |
| 43 | 37 | 71.2 | 18 | 5 | PCT-US94-07019-6 | Sequence 6, Appli |
| 44 | 37 | 71.2 | 18 | 5 | PCT-US94-07019-15 | Sequence 15, Appl |
| 45 | 35 | 67.3 | 16 | 1 | US-07-725-331-4 | Sequence 4, Appli |

ALIGNMENTS

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RESULT   1
US-08-569-188-8
; Sequence 8, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;      STREET:  1007 MARKET STREET
;      CITY:  WILMINGTON
;      STATE:  DELAWARE
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  19898
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.50 INCH
;      COMPUTER:  IBM PC COMPATIBLE
;      OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;      SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/569,188
;      FILING DATE:
;      CLASSIFICATION:  525
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  LINDA AXAMETHY FLOYD
;      REGISTRATION NUMBER:  33,692
;      REFERENCE/DOCKET NUMBER:  CR-9295-A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  302-892-8112
;      TELEFAX:  302-773-0164
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  14 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
US-08-569-188-8


  Query Match             76.9%;  Score 40;  DB 2;  Length 14;
  Best Local Similarity   83.3%;  Pred. No. 1.5;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | ||||| ||||
```

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Db      2 KKLLKLLKKLLK 13


RESULT   2
PCT-US94-07019-8
; Sequence 8, Application PC/TUS9407019
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  8:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  14 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-8


  Query Match             76.9%;  Score 40;  DB 5;  Length 14;
  Best Local Similarity   83.3%;  Pred. No. 1.5;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLLKLLK 12
          | |||||  ||||
Db      2 KKLLKLLKKLLK 13


RESULT   3
US-08-569-188-1
; Sequence 1, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;      STREET:  1007 MARKET STREET
;      CITY:  WILMINGTON
;      STATE:  DELAWARE
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  19898
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.50 INCH
;      COMPUTER:  IBM PC COMPATIBLE
;      OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;      SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/569,188
;      FILING DATE:
;      CLASSIFICATION:  525
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  LINDA AXAMETHY FLOYD
;      REGISTRATION NUMBER:  33,692
;      REFERENCE/DOCKET NUMBER:  CR-9295-A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  302-892-8112
;      TELEFAX:  302-773-0164
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
US-08-569-188-1


  Query Match             76.9%;  Score 40;  DB 2;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 1.7;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLLKLLK 12
          | |||||  ||||
Db      4 KKLLKLLKKLLK 15


RESULT   4
US-08-569-188-10
; Sequence 10, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;      STREET:  1007 MARKET STREET
;      CITY:  WILMINGTON
;      STATE:  DELAWARE
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  19898
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.50 INCH
;      COMPUTER:  IBM PC COMPATIBLE
;      OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;      SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/569,188
;      FILING DATE:
;      CLASSIFICATION:  525
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  LINDA AXAMETHY FLOYD
;      REGISTRATION NUMBER:  33,692
;      REFERENCE/DOCKET NUMBER:  CR-9295-A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  302-892-8112
;      TELEFAX:  302-773-0164
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
US-08-569-188-10


  Query Match             76.9%;  Score 40;  DB 2;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 1.7;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLLKLLK 12
          | |||||  ||||
Db      4 KKLLKLLKKLLK 15
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RESULT   5
US-08-569-188-11
; Sequence 11, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;      STREET:  1007 MARKET STREET
;      CITY:  WILMINGTON
;      STATE:  DELAWARE
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  19898
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.50 INCH
;      COMPUTER:  IBM PC COMPATIBLE
;      OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;      SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/569,188
;      FILING DATE:
;      CLASSIFICATION:  525
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  LINDA AXAMETHY FLOYD
;      REGISTRATION NUMBER:  33,692
;      REFERENCE/DOCKET NUMBER:  CR-9295-A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  302-892-8112
;      TELEFAX:  302-773-0164
;  INFORMATION FOR SEQ ID NO:  11:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
US-08-569-188-11


  Query Match             76.9%;  Score 40;  DB 2;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 1.7;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | ||||| ||||
Db       4 KKLLKLLKKLLK 15


RESULT   6
US-08-569-188-12
; Sequence 12, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;      STREET:  1007 MARKET STREET
;      CITY:  WILMINGTON
;      STATE:  DELAWARE
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  19898
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.50 INCH
;      COMPUTER:  IBM PC COMPATIBLE
;      OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;      SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/569,188
;      FILING DATE:
;      CLASSIFICATION:  525
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  LINDA AXAMETHY FLOYD
;      REGISTRATION NUMBER:  33,692
;      REFERENCE/DOCKET NUMBER:  CR-9295-A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  302-892-8112
;      TELEFAX:  302-773-0164
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
US-08-569-188-12


  Query Match             76.9%;  Score 40;  DB 2;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 1.7;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | ||||| ||||
Db       4 KKLLKLLKKLLK 15


RESULT   7
PCT-US94-07019-1
; Sequence 1, Application PC/TUS9407019
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-1


  Query Match             76.9%;  Score 40;  DB 5;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 1.7;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | ||||| ||||
Db       4 KKLLKLLKKLLK 15


RESULT   8
PCT-US94-07019-10
; Sequence 10, Application PC/TUS9407019
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;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-10


  Query Match             76.9%;  Score 40;  DB 5;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 1.7;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | ||||| ||||
Db       4 KKLLKLLKKLLK 15


RESULT  9
PCT-US94-07019-11
; Sequence 11, Application PC/TUS9407019
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  11:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-11


  Query Match             76.9%;  Score 40;  DB 5;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 1.7;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | ||||| ||||
Db       4 KKLLKLLKKLLK 15


RESULT  10
PCT-US94-07019-12
; Sequence 12, Application PC/TUS9407019
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-12


  Query Match             76.9%;  Score 40;  DB 5;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 1.7;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | ||||| ||||
Db       4 KKLLKLLKKLLK 15


RESULT  11
US-08-569-188-3
; Sequence 3, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;      STREET:  1007 MARKET STREET
;      CITY:  WILMINGTON
;      STATE:  DELAWARE
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  19898
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.50 INCH
;      COMPUTER:  IBM PC COMPATIBLE
;      OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;      SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/569,188
;      FILING DATE:
;      CLASSIFICATION:  525
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  LINDA AXAMETHY FLOYD
;      REGISTRATION NUMBER:  33,692
;      REFERENCE/DOCKET NUMBER:  CR-9295-A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  302-892-8112
;      TELEFAX:  302-773-0164
;  INFORMATION FOR SEQ ID NO:  3:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  17 amino acids
;      TYPE:  amino acid
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;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
US-08-569-188-3


  Query Match             76.9%;  Score 40;  DB 2;  Length 17;
  Best Local Similarity   83.3%;  Pred. No. 1.8;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | |||||  ||||
Db       5 KKLLKLLKKLLK 16


RESULT  12
US-08-818-253-39
; Sequence 39, Application US/08818253
; Patent No. 5998204
;  GENERAL INFORMATION:
;    APPLICANT:  Tsien, Roger Y.
;    APPLICANT:  Miyawaki, Atsushi
;    TITLE OF INVENTION:  FLUORESCENT PROTEIN SENSORS FOR
;    TITLE OF INVENTION:  DETECTION OF ANALYTES
;    NUMBER OF SEQUENCES:  61
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson P.C.
;      STREET:  4225 Executive Square, Suite 1400
;      CITY:  La Jolla
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  92037
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  Windows 95
;      SOFTWARE:  FastSEQ for Windows Version 2.0b
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/818,253
;      FILING DATE:  14-MAR-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Haile, Ph.D., Lisa A.
;      REGISTRATION NUMBER:  38,347
;      REFERENCE/DOCKET NUMBER:  07257/043001
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  619/678-5070
;      TELEFAX:  619/678-5099
;  INFORMATION FOR SEQ ID NO:  39:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  17 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-818-253-39


  Query Match             76.9%;  Score 40;  DB 2;  Length 17;
  Best Local Similarity   83.3%;  Pred. No. 1.8;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15


RESULT  13
US-08-818-252-39
; Sequence 39, Application US/08818252B
; Patent No. 6197928
; GENERAL INFORMATION:
;  APPLICANT: Tsien, Roger Y.
;  APPLICANT: Miyawaki, Atsushi
;  TITLE OF INVENTION: FLUORESCENT PROTEIN SENSORS FOR
;  TITLE OF INVENTION: DETECTION OF ANALYTES
;  FILE REFERENCE: 07257/042001
;  CURRENT APPLICATION NUMBER: US/08/818,252B
;  CURRENT FILING DATE: 1997-03-14
;  NUMBER OF SEQ ID NOS: 56
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 39
;   LENGTH: 17
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Calmodulin binding peptide-2
US-08-818-252-39


  Query Match             76.9%;  Score 40;  DB 4;  Length 17;
  Best Local Similarity   83.3%;  Pred. No. 1.8;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15


RESULT  14
PCT-US94-07019-3
; Sequence 3, Application PC/TUS9407019
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  3:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  17 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-3


  Query Match             76.9%;  Score 40;  DB 5;  Length 17;
  Best Local Similarity   83.3%;  Pred. No. 1.8;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | |||||  ||||
Db       5 KKLLKLLKKLLK 16


RESULT  15
US-08-569-188-5
; Sequence 5, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
```

```
;       ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;       STREET:  1007 MARKET STREET
;       CITY:  WILMINGTON
;       STATE:  DELAWARE
;       COUNTRY:  UNITED STATES OF AMERICA
;       ZIP:  19898
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  DISKETTE, 3.50 INCH
;       COMPUTER:  IBM PC COMPATIBLE
;       OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;       SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/569,188
;       FILING DATE:
;       CLASSIFICATION:  525
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/082,852
;       FILING DATE:  JUNE 22, 1993
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  LINDA AXAMETHY FLOYD
;       REGISTRATION NUMBER:  33,692
;       REFERENCE/DOCKET NUMBER:  CR-9295-A
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  302-892-8112
;       TELEFAX:  302-773-0164
;   INFORMATION FOR SEQ ID NO:  5:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  18 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  unknown
;       TOPOLOGY:  unknown
;     MOLECULE TYPE:  peptide
US-08-569-188-5


  Query Match             76.9%;  Score 40;  DB 2;  Length 18;
  Best Local Similarity   83.3%;  Pred. No. 1.9;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLLKLLK 12
           | ||||| ||||
Db       6 KKLLKLLKKLLK 17


Search completed: June 17, 2002, 12:42:03
Job time: 223 sec
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GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:41:21 ; Search time 94.14 Seconds
(without alignments)
7.079 Million cell updates/sec

Title: US-09-367-714A-28
Perfect score: 26
Sequence: 1 KLLLLK 6

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters: 747574

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 26 | 100.0 | 6 | 18 | AAW35154 | Leu/Lys diastereom |
| 2 | 26 | 100.0 | 6 | 19 | AAW82852 | Antipathogenic pep |
| 3 | 26 | 100.0 | 6 | 21 | AAB17418 | Antipathogenic pep |
| 4 | 26 | 100.0 | 8 | 19 | AAW45766 | KL-4 pulmonary sur |
| 5 | 26 | 100.0 | 8 | 19 | AAW45768 | KL-4 pulmonary sur |
| 6 | 26 | 100.0 | 12 | 18 | AAW35166 | Leu/Lys diastereom |
| 7 | 26 | 100.0 | 12 | 19 | AAW82883 | Antipathogenic pep |
| 8 | 26 | 100.0 | 12 | 21 | AAB17412 | Antipathogenic pep |
| 9 | 26 | 100.0 | 13 | 19 | AAW45767 | KL-4 pulmonary sur |
| 10 | 26 | 100.0 | 15 | 19 | AAW77384 | Lytic peptide with |
| 11 | 26 | 100.0 | 18 | 19 | AAW45765 | KL-4 pulmonary sur |
| 12 | 26 | 100.0 | 21 | 14 | AAR30661 | Peptide contg. alt |
| 13 | 26 | 100.0 | 21 | 18 | AAW32109 | Liposomal pulmonar |
| 14 | 26 | 100.0 | 21 | 19 | AAW45763 | KL-4 pulmonary sur |
| 15 | 26 | 100.0 | 21 | 20 | AAW82278 | Surfactant peptide |
| 16 | 26 | 100.0 | 21 | 21 | AAB06344 | Peptide used in th |
| 17 | 26 | 100.0 | 21 | 21 | AAY88039 | Respiratory distre |
| 18 | 26 | 100.0 | 21 | 22 | AAB49683 | Modified surfactan |
| 19 | 26 | 100.0 | 21 | 22 | AAB46100 | Human surfactant p |
| 20 | 26 | 100.0 | 34 | 21 | AAB34780 | Human secreted pro |
| 21 | 26 | 100.0 | 35 | 21 | AAB08290 | Artificial Surfact |
| 22 | 26 | 100.0 | 39 | 21 | AAB28015 | Human secreted pro |
| 23 | 26 | 100.0 | 64 | 19 | AAW85466 | Secreted protein e |
| 24 | 26 | 100.0 | 64 | 21 | AAY87304 | Human signal pepti |
| 25 | 26 | 100.0 | 121 | 19 | AAW80409 | A secreted protein |
| 26 | 26 | 100.0 | 125 | 22 | ABG19410 | Novel human diagno |
| 27 | 26 | 100.0 | 133 | 22 | AAO00228 | Human polypeptide |
| 28 | 26 | 100.0 | 136 | 22 | AAO13335 | Human polypeptide |
| 29 | 26 | 100.0 | 171 | 20 | AAY37473 | Amino acid sequenc |
| 30 | 26 | 100.0 | 197 | 21 | AAG55601 | Arabidopsis thalia |
| 31 | 26 | 100.0 | 258 | 21 | AAG55600 | Arabidopsis thalia |
| 32 | 26 | 100.0 | 259 | 21 | AAG55599 | Arabidopsis thalia |
| 33 | 26 | 100.0 | 307 | 21 | AAG06829 | Arabidopsis thalia |
| 34 | 26 | 100.0 | 311 | 22 | AAB80628 | Environmental stre |
| 35 | 26 | 100.0 | 388 | 21 | AAG46587 | Arabidopsis thalia |
| 36 | 26 | 100.0 | 2431 | 13 | AAR25138 | SFV4 non-structura |
| 37 | 24 | 92.3 | 16 | 17 | AAW07285 | Amphiphilic antimi |
| 38 | 24 | 92.3 | 43 | 22 | AAU17726 | Novel human respir |
| 39 | 24 | 92.3 | 66 | 18 | AAW28160 | Amino acid sequenc |
| 40 | 24 | 92.3 | 80 | 21 | AAB24480 | Human secreted pro |
| 41 | 24 | 92.3 | 145 | 22 | AAU23303 | Novel human enzyme |
| 42 | 24 | 92.3 | 145 | 22 | AAU21748 | Novel human neopla |
| 43 | 24 | 92.3 | 187 | 21 | AAY66677 | Membrane-bound pro |
| 44 | 24 | 92.3 | 187 | 22 | AAU29236 | Human PRO polypept |
| 45 | 24 | 92.3 | 187 | 22 | AAB85575 | Human glutathione |

ALIGNMENTS

RESULT 1
AAW35154
ID AAW35154 standard; peptide; 6 AA.
XX
AC AAW35154;
XX
DT 14-APR-1998 (first entry)
XX
DE Leu/Lys diastereomer peptide [D]-L1,3-K2L4.
XX
KW Leu/Lys diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW Honey bee venom; pardaxin; cytolytic activity; cancer;
KW non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW agricultural pesticide; cell wall lysis.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 2
FT /note= "D-form residue"
FT Misc-difference 4
FT /note= "D-form residue"
XX
PN WO9731019-A2.
XX
PD 28-AUG-1997.
XX
PF 20-FEB-1997; 97WO-IL00066.
XX
PR 22-FEB-1996; 96IL-0117223.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;

XX
DR WPI; 1997-435088/40.
XX
PT Peptide(s) having selective cytolytic activity - against pathogens
PT and malignant cells, but no haemolytic activity, used for treating
PT infections and cancer
XX
PS Claim 21; Page 40; 80pp; English.
XX
CC This sequence represents a Leu/Lys diastereomer peptide of the
CC invention. The peptides of the invention have: (a) cytolytic activity on
CC pathogenic cells (pathogens and malignant cells not naturally present in
CC the body); but (b) no haemolytic activity, or such activity only at a
CC concentration significantly higher than that at which they lyse
CC pathogens. The peptides, their complexes and mixtures are used to treat
CC infections (caused by bacteria, fungi, protozoa, mycoplasma or viruses)
CC or cancer, in human and veterinary medicine. Also, they can be used as
CC preservatives for food, cosmetics and agricultural produce, or as
CC agricultural pesticides. The absence of haemolytic activity (associated
CC with disturbance of alpha-helical structures) means that the peptides
CC have few if any toxic effects, and those that include D-aa will have
CC increased resistance to proteolytic degradation. Non-haemolytic,
CC cytotoxic random copolymers of pardaxin, each has a specific spectrum of
CC activity, allowing selection of agents for particular applications. Since
CC these random copolymers induce total lysis of bacterial cell walls,
CC resistance to them is unlikely to develop.
XX
SQ Sequence 6 AA;

Query Match 100.0%; Score 26; DB 18; Length 6;
Best Local Similarity 100.0%; Pred. No. 6.4e+05;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 1 kllllk 6

RESULT 2
AAW82852
ID AAW82852 standard; peptide; 6 AA.
XX
AC AAW82852;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 13; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 6 AA;

Query Match 100.0%; Score 26; DB 19; Length 6;
Best Local Similarity 100.0%; Pred. No. 6.4e+05;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 1 kllllk 6

RESULT 3
AAB17418
ID AAB17418 standard; Peptide; 6 AA.
XX
AC AAB17418;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:522.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX

PS Claim 39; Page 379; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 6 AA;

Query Match 100.0%; Score 26; DB 21; Length 6;
Best Local Similarity 100.0%; Pred. No. 6.4e+05;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 1 kllllk 6

RESULT 4
AAW45766
ID AAW45766 standard; peptide; 8 AA.
XX
AC AAW45766;
XX
DT 19-JUN-1998 (first entry)
XX
DE KL-4 pulmonary surfactant protein precursor peptide.
XX
KW Liquid phase peptide synthesis; KL-4 pulmonary surfactant protein;
KW coupling; respiratory distress syndrome; saponification.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "N-terminally modified by t-butyloxycarbonyl
FT group. Side chain amino group protected by
FT benzyloxycarbonyl group"
FT Modified-site 6
FT /note= "Side chain amino group of Lys6 protected by
FT benzyloxycarboxyl group"
FT Modified-site 8
FT /note= "Leu-OR, where R is 1-8C alkyl or phenyl
FT 1-8C alkyl"
XX
PN WO9802461-A2.
XX
PD 22-JAN-1998.
XX
PF 11-JUL-1997; 97WO-US12163.
XX
PR 17-JUL-1996; 96US-0021455.
XX
PA (ORTH ) ORTHO PHARM CORP.
XX
PI Abdel-magid AF, Eggmann U, Maryanoff CA, Thaler A;
PI Villani FJ;
XX
DR WPI; 1998-110531/10.
XX
PT Preparation of KL-4 pulmonary surfactant - using liquid phase
PT peptide synthesis procedures by coupling appropriate peptide
PT fragments
XX
PS Claim 11; Page 27; 30pp; English.
XX
CC This peptide is used in a novel process for the synthesis of a KL-4
CC pulmonary surfactant protein. The process comprises: (a) reacting a
CC 3-amino acid peptide residue of formula H-Lys(Z)-Leu-Leu-OH with a 5-
CC amino acid peptide residue Boc-Leu-Leu-Lys(Z)-Leu-Leu-OH (II) to yield
CC an 8-amino acid peptide residue, which is successively reacted with the
CC 5-amino acid peptide to form an 18-amino acid peptide of formula
CC H-Leu-Leu(Lys(Z)-Leu4)3Lys(Z)-OBzl (IIIa); (b) reacting the 18 amino acid
CC peptide with a 3-residue amino acid peptide of formula H-Leu-Leu-
CC Lys(Z)-OBzl (X) to form the protected 21-amino acid KL-4 protein; and
CC (c) removing the protecting group of the 21-amino acid KL-4 protein by
CC reaction with a suitable acid to form the final KL-4 protein. The
CC methods can be used for the preparation of the polypeptide component of
CC the synthetic pulmonary surfactant KL-4 which can be used in the
CC treatment of respiratory distress syndrome. The saponification process
CC can provide for the deprotection of a peptide ester protected carboxyl
CC group with reduced racemisation. The liquid phase peptide processes
CC provide advantages in solubility and control over unwanted by-products.
XX
SQ Sequence 8 AA;

Query Match 100.0%; Score 26; DB 19; Length 8;
Best Local Similarity 100.0%; Pred. No. 6.4e+05;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 1 kllllk 6

RESULT 5
AAW45768
ID AAW45768 standard; peptide; 8 AA.
XX
AC AAW45768;
XX
DT 19-JUN-1998 (first entry)
XX
DE KL-4 pulmonary surfactant protein precursor peptide.
XX
KW Liquid phase peptide synthesis; KL-4 pulmonary surfactant protein;
KW coupling; respiratory distress syndrome; saponification.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "N-terminally modified by t-butyloxycarbonyl
FT group"
FT Modified-site 3
FT /note= "Side chain amino group of Lys3 protected by
FT benzyloxycarboxyl group"
FT Modified-site 8
FT /note= "Side chain amino group of Lys8 protected by
FT benzyloxycarboxyl group. C-terminally
FT modifed by OBzl"
XX
PN WO9802461-A2.
XX
PD 22-JAN-1998.
XX
PF 11-JUL-1997; 97WO-US12163.
XX
PR 17-JUL-1996; 96US-0021455.
XX

```
PA   (ORTH ) ORTHO PHARM CORP.
XX
PI   Abdel-magid AF,  Eggmann U,  Maryanoff CA,  Thaler A;
PI   Villani FJ;
XX
DR   WPI; 1998-110531/10.
XX
PT   Preparation of KL-4 pulmonary surfactant - using liquid phase
PT   peptide synthesis procedures by coupling appropriate peptide
PT   fragments
XX
PS   Claim 2a; Page 25; 30pp; English.
XX
CC   This peptide is used in a novel process for the synthesis of a KL-4
CC   pulmonary surfactant protein. The process comprises: (a) reacting a
CC   3-amino acid peptide residue of formula H-Lys(Z)-Leu-Leu-OH with a 5-
CC   amino acid peptide residue Boc-Leu-Leu-Lys(Z)-Leu-Leu-OH (II) to yield
CC   an 8-amino acid peptide residue, which is successively reacted with the
CC   5-amino acid peptide to form an 18-amino acid peptide of formula
CC   H-Leu-Leu(Lys(Z)-Leu4)3Lys(Z)-OBzl (IIIa); (b) reacting the 18 amino acid
CC   peptide with a 3-residue amino acid peptide of formula H-Leu-Leu-
CC   Lys(Z)-OBzl (X) to form the protected 21-amino acid KL-4 protein; and
CC   (c) removing the protecting group of the 21-amino acid KL-4 protein by
CC   reaction with a suitable acid to form the final KL-4 protein. The
CC   methods can be used for the preparation of the polypeptide component of
CC   the synthetic pulmonary surfactant KL-4 which can be used in the
CC   treatment of respiratory distress syndrome. The saponification process
CC   can provide for the deprotection of a peptide ester protected carboxyl
CC   group with reduced racemisation. The liquid phase peptide processes
CC   provide advantages in solubility and control over unwanted by-products.
XX
SQ   Sequence   8 AA;
```

```
  Query Match             100.0%;  Score 26;  DB 19;  Length 8;
  Best Local Similarity   100.0%;  Pred. No. 6.4e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
           ||||||
Db       3 kllllk 8
```

```
RESULT   6
AAW35166
ID   AAW35166 standard; peptide; 12 AA.
XX
AC   AAW35166;
XX
DT   14-APR-1998  (first entry)
XX
DE   Leu/Lys diastereomer peptide [D]-L3,4,8,10-K3L9.
XX
KW   Leu/Lys diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW   Honey bee venom; pardaxin; cytolytic activity; cancer;
KW   non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW   agricultural pesticide; cell wall lysis.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 3
FT                   /note= "D-form residue"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Misc-difference 8
FT                   /note= "D-form residue"
FT   Misc-difference 10
FT                   /note= "D-form residue"
FT   Modified-site   12
FT                   /note= "C-terminal amide"
XX
PN   WO9731019-A2.
XX
PD   28-AUG-1997.
XX
PF   20-FEB-1997;   97WO-IL00066.
XX
PR   22-FEB-1996;   96IL-0117223.
XX
PA   (YEDA ) YEDA RES & DEV CO LTD.
XX
PI   Oren Z,  Shai Y;
XX
DR   WPI; 1997-435088/40.
XX
PT   Peptide(s) having selective cytolytic activity - against pathogens
PT   and malignant cells, but no haemolytic activity, used for treating
PT   infections and cancer
XX
PS   Example 3; Page 39; 80pp; English.
XX
CC   This sequence represents a Leu/Lys diastereomer peptide of the
CC   invention. The peptides of the invention have: (a) cytolytic activity on
CC   pathogenic cells (pathogens and malignant cells not naturally present in
CC   the body); but (b) no haemolytic activity, or such activity only at a
CC   concentration significantly higher than that at which they lyse
CC   pathogens. The peptides, their complexes and mixtures are used to treat
CC   infections (caused by bacteria, fungi, protozoa, mycoplasma or viruses)
CC   or cancer, in human and veterinary medicine. Also, they can be used as
CC   preservatives for food, cosmetics and agricultural produce, or as
CC   agricultural pesticides. The absence of haemolytic activity (associated
CC   with disturbance of alpha-helical structures) means that the peptides
CC   have few if any toxic effects, and those that include D-aa will have
CC   increased resistance to proteolytic degradation. Non-haemolytic,
CC   cytotoxic random copolymers of pardaxin, each has a specific spectrum of
CC   activity, allowing selection of agents for particular applications. Since
CC   these random copolymers induce total lysis of bacterial cell walls,
CC   resistance to them is unlikely to develop.
XX
SQ   Sequence   12 AA;
```

```
  Query Match             100.0%;  Score 26;  DB 18;  Length 12;
  Best Local Similarity   100.0%;  Pred. No. 17;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
           ||||||
Db       7 kllllk 12
```

```
RESULT   7
AAW82883
ID   AAW82883 standard; peptide; 12 AA.
XX
AC   AAW82883;
XX
DT   19-MAY-1999  (first entry)
XX
DE   Antipathogenic peptide.
XX
KW   Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW   cancer; infection; disinfectant; contact lens wetting solution;
KW   preservative; pesticide; fungicide; bactericide.
XX
OS   Synthetic.
XX
PN   WO9837090-A1.
XX
PD   27-AUG-1998.
XX
PF   19-FEB-1998;   98WO-IL00081.
XX
PR   20-FEB-1997;   97WO-IL00066.
XX
```

PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Example 3; Page 38; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 26; DB 19; Length 12;
Best Local Similarity 100.0%; Pred. No. 17;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 7 kllllk 12

RESULT 8
AAB17412
ID AAB17412 standard; Peptide; 12 AA.
XX
AC AAB17412;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:516.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX

PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 377; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 26; DB 21; Length 12;
Best Local Similarity 100.0%; Pred. No. 17;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 7 kllllk 12

RESULT 9
AAW45767
ID AAW45767 standard; peptide; 13 AA.
XX
AC AAW45767;
XX
DT 19-JUN-1998 (first entry)
XX
DE KL-4 pulmonary surfactant protein precursor peptide.
XX
KW Liquid phase peptide synthesis; KL-4 pulmonary surfactant protein;
KW coupling; respiratory distress syndrome; saponification.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "N-terminally modified by t-butyloxycarbonyl
FT group"
FT Modified-site 3
FT /note= "Side chain amino group of Lys3 protected by
FT benzyloxycarboxyl group"
FT Modified-site 8
FT /note= "Side chain amino group of Lys8 protected by
FT benzyloxycarboxyl group"
FT Modified-site 13
FT /note= "Side chain amino group of Lys13 protected by
FT benzyloxycarboxyl group. C-terminally
FT modifed by OBzl"
XX

PN WO9802461-A2.
XX
PD 22-JAN-1998.
XX
PF 11-JUL-1997; 97WO-US12163.
XX
PR 17-JUL-1996; 96US-0021455.
XX
PA (ORTH ) ORTHO PHARM CORP.
XX
PI Abdel-magid AF, Eggmann U, Maryanoff CA, Thaler A;
PI Villani FJ;
XX
DR WPI; 1998-110531/10.
XX
PT Preparation of KL-4 pulmonary surfactant - using liquid phase
PT peptide synthesis procedures by coupling appropriate peptide
PT fragments
XX
PS Claim 2c; Page 25; 30pp; English.
XX
CC This peptide is used in a novel process for the synthesis of a KL-4
CC pulmonary surfactant protein. The process comprises: (a) reacting a
CC 3-amino acid peptide residue of formula H-Lys(Z)-Leu-Leu-OH with a 5-
CC amino acid peptide residue Boc-Leu-Leu-Lys(Z)-Leu-Leu-OH (II) to yield
CC an 8-amino acid peptide residue, which is successively reacted with the
CC 5-amino acid peptide to form an 18-amino acid peptide of formula
CC H-Leu-Leu(Lys(Z)-Leu4)3Lys(Z)-OBzl (IIIa); (b) reacting the 18 amino acid
CC peptide with a 3-residue amino acid peptide of formula H-Leu-Leu-
CC Lys(Z)-OBzl (X) to form the protected 21-amino acid KL-4 protein; and
CC (c) removing the protecting group of the 21-amino acid KL-4 protein by
CC reaction with a suitable acid to form the final KL-4 protein. The
CC methods can be used for the preparation of the polypeptide component of
CC the synthetic pulmonary surfactant KL-4 which can be used in the
CC treatment of respiratory distress syndrome. The saponification process
CC can provide for the deprotection of a peptide ester protected carboxyl
CC group with reduced racemisation. The liquid phase peptide processes
CC provide advantages in solubility and control over unwanted by-products.
XX
SQ Sequence 13 AA;

Query Match 100.0%; Score 26; DB 19; Length 13;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 3 kllllk 8

RESULT 10
AAW77384
ID AAW77384 standard; peptide; 15 AA.
XX
AC AAW77384;
XX
DT 14-DEC-1998 (first entry)
XX
DE Lytic peptide with alterable function 9.
XX
KW Biologically active peptide; hormone; drug; toxin;
KW lipid bilayer membrane; microorganism; parasite; virus.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "Optional N-terminal myristyl"
FT Modified-site 15
FT /note= "C-terminal amide"
XX
PN WO9841535-A2.
XX
PD 24-SEP-1998.
XX
PF 18-MAR-1998; 98WO-GB00799.
XX
PR 18-MAR-1997; 97GB-0005519.
XX
PA (ANMA-) ANMAT TECHNOLOGY LTD.
XX
PI Ajoula HS, Clarke DJ;
XX
DR WPI; 1998-521161/44.
XX
PT New modified peptide(s) - obtained by substitution with an amino
PT acid which is modifiable by a reaction and replacing other amino
PT acids which are not to be modified
XX
PS Example 1; Page 13; 33pp; English.
XX
CC The peptides AAW77376-W77390 can be modified by the method of the
CC invention by substituting at least one amino acid of the peptide to
CC provide a peptide having at least one amino acid which is modifiable by
CC a reaction and replacing other amino acids in the peptide with amino
CC acids which are not modifiable by the reaction. The methods can be used
CC for the modification of biologically active peptides such as hormones,
CC drugs, toxins and peptides which act on lipid bilayer membranes. The
CC modified peptides can be used e.g. in the body of an animal or plant or
CC parts in order to affect the structure or integrity or permeability of a
CC foreign body such as a microorganism, parasite or virus present in the
CC body of the animal or plant or within the cells of the body of the animal
CC or plant.
XX
SQ Sequence 15 AA;

Query Match 100.0%; Score 26; DB 19; Length 15;
Best Local Similarity 100.0%; Pred. No. 21;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 7 kllllk 12

RESULT 11
AAW45765
ID AAW45765 standard; peptide; 18 AA.
XX
AC AAW45765;
XX
DT 19-JUN-1998 (first entry)
XX
DE KL-4 pulmonary surfactant protein precursor peptide.
XX
KW Liquid phase peptide synthesis; KL-4 pulmonary surfactant protein;
KW coupling; respiratory distress syndrome; saponification.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 3
FT /note= "Side chain amino group of Lys protected by
FT benzyloxycarboxyl group"
FT Modified-site 8
FT /note= "Side chain amino group of Lys protected by
FT benzyloxycarboxyl group"
FT Modified-site 13
FT /note= "Side chain amino group of Lys protected by
FT benzyloxycarboxyl group"
FT Modified-site 18
FT /note= "Side chain amino group of Lys protected by
FT benzyloxycarboxyl group and C-terminus
FT modifed by OBzl"

XX
PN WO9802461-A2.
XX
PD 22-JAN-1998.
XX
PF 11-JUL-1997; 97WO-US12163.
XX
PR 17-JUL-1996; 96US-0021455.
XX
PA (ORTH ) ORTHO PHARM CORP.
XX
PI Abdel-magid AF, Eggmann U, Maryanoff CA, Thaler A;
PI Villani FJ;
XX
DR WPI; 1998-110531/10.
XX
PT Preparation of KL-4 pulmonary surfactant - using liquid phase
PT peptide synthesis procedures by coupling appropriate peptide
PT fragments
XX
PS Claim 1a; Page 25; 30pp; English.
XX
CC This peptide is used in a novel process for the synthesis of a KL-4
CC pulmonary surfactant protein. The process comprises: (a) reacting a
CC 3-amino acid peptide residue of formula H-Lys(Z)-Leu-Leu-OH with a 5-
CC amino acid peptide residue Boc-Leu-Leu-Lys(Z)-Leu-Leu-OH (II) to yield
CC an 8-amino acid peptide residue, which is successively reacted with the
CC 5-amino acid peptide to form an 18-amino acid peptide of formula
CC H-Leu-Leu(Lys(Z)-Leu4)3Lys(Z)-OBzl (IIIa); (b) reacting the 18 amino acid
CC peptide with a 3-residue amino acid peptide of formula H-Leu-Leu-
CC Lys(Z)-OBzl (X) to form the protected 21-amino acid KL-4 protein; and
CC (c) removing the protecting group of the 21-amino acid KL-4 protein by
CC reaction with a suitable acid to form the final KL-4 protein. The
CC methods can be used for the preparation of the polypeptide component of
CC the synthetic pulmonary surfactant KL-4 which can be used in the
CC treatment of respiratory distress syndrome. The saponification process
CC can provide for the deprotection of a peptide ester protected carboxyl
CC group with reduced racemisation. The liquid phase peptide processes
CC provide advantages in solubility and control over unwanted by-products.
XX
SQ Sequence 18 AA;

Query Match 100.0%; Score 26; DB 19; Length 18;
Best Local Similarity 100.0%; Pred. No. 26;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 3 kllllk 8

RESULT 12
AAR30661
ID AAR30661 standard; peptide; 21 AA.
XX
AC AAR30661;
XX
DT 13-MAY-1993 (first entry)
XX
DE Peptide contg. alternating hydrophobic and hydrophilic regions.
XX
KW Pulmonary surfactant; phospholipid; respiratory distress syndrome;
KW RDS.
XX
OS Synthetic.
XX
PN WO9222315-A.
XX
PD 23-DEC-1992.
XX
PF 01-JUN-1992; 92WO-US04537.
XX
PR 14-JUN-1991; 91US-0715397.
XX
PA (SCRI ) SCRIPPS RES INST.
XX
PI Cochrane CG, Revak SD;
XX
DR WPI; 1993-017902/02.
XX
PT Polypeptide(s) comprising alternating hydrophobic and hydrophilic
PT residue regions - are useful as pulmonary surfactants for
PT treating respiratory distress syndrome
XX
PS Claim 4; Page 58; 73pp; English.
XX
CC The peptide is an example of a highly generic peptide comprising 10-
CC 60 amino acid residues, including a sequence having alternating
CC hydrophobic and hydrophilic amino acid residue regions. When the
CC polypeptide is mixed with a phospholipid a synthetic pulmonary
CC surfactant is formed which has greater surfactant activity than the
CC phospholipid alone. The surfactant is used for the treatment of
CC respiratory distress syndrome (RDS).
CC See also AAR30655-64.
XX
SQ Sequence 21 AA;

Query Match 100.0%; Score 26; DB 14; Length 21;
Best Local Similarity 100.0%; Pred. No. 31;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 6 kllllk 11

RESULT 13
AAW32109
ID AAW32109 standard; peptide; 21 AA.
XX
AC AAW32109;
XX
DT 04-FEB-1998 (first entry)
XX
DE Liposomal pulmonary surfactant composition polypeptide.
XX
KW Liposomal pulmonary surfactant composition; preparation;
KW respiratory distress syndrome; premature infant; premature neonate;
KW monolayer formation; alveolar air-water interface.
XX
OS Synthetic.
XX
PN WO9719108-A1.
XX
PD 29-MAY-1997.
XX
PF 22-OCT-1996; 96WO-US16804.
XX
PR 20-NOV-1995; 95US-0007347.
XX
PA (ORTH ) ORTHO PHARM CORP.
XX
PI Kasulanis CF, Sampino K, Weber JV;
XX
DR WPI; 1997-298058/27.
XX
PT Improved preparation of liposomal pulmonary surfactant - for
PT treatment of respiratory distress syndrome in premature infants and
PT neonate(s)
XX
PS Claim 3; Page 16; 31pp; English.
XX
CC The preparation of liposomal pulmonary surfactant composition by
CC ethanolic injection has been improved. The liposomal pulmonary

CC surfactant composition comprises a polypeptide and a phospholipid.
CC The present sequence represents the polypeptide for use in the
CC liposomal pulmonary surfactant composition. The preparation comprises
CC preparing a form of the polypeptide (or a salt or ester), which
CC exhibits enhanced solubility in ethanol, which comprises: (a) preparing
CC a solution of the polypeptide, salt or ester in a fluorinated alcohol
CC at 5-40 mg/ml; (b) incubating for time sufficient to achieve an optical
CC density at 450 nm of < 0.06; (c) filtering; and (d) removing the
CC fluorinated alcohol to recover solid, soluble polypeptide. The
CC liposomal pulmonary surfactant composition can be used to promote the
CC formation of a monolayer at the alveolar air-water interface, and by
CC reducing the surface tension, prevent the collapse of the alveolus
CC during expiration. The liposomal pulmonary surfactant composition can
CC be used in premature infants and occasionally full term neonates who
CC sometimes suffer from respiratory distress syndrome due to the lack of
CC sufficient endogenous liposomal pulmonary surfactant.
XX
SQ Sequence 21 AA;

Query Match 100.0%; Score 26; DB 18; Length 21;
Best Local Similarity 100.0%; Pred. No. 31;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 1 kllllk 6

RESULT 14
AAW45763
ID AAW45763 standard; peptide; 21 AA.
XX
AC AAW45763;
XX
DT 19-JUN-1998 (first entry)
XX
DE KL-4 pulmonary surfactant protein.
XX
KW Liquid phase peptide synthesis; KL-4 pulmonary surfactant protein;
KW coupling; respiratory distress syndrome; saponification.
XX
OS Synthetic.
XX
PN WO9802461-A2.
XX
PD 22-JAN-1998.
XX
PF 11-JUL-1997; 97WO-US12163.
XX
PR 17-JUL-1996; 96US-0021455.
XX
PA (ORTH ) ORTHO PHARM CORP.
XX
PI Abdel-magid AF, Eggmann U, Maryanoff CA, Thaler A;
PI Villani FJ;
XX
DR WPI; 1998-110531/10.
XX
PT Preparation of KL-4 pulmonary surfactant - using liquid phase
PT peptide synthesis procedures by coupling appropriate peptide
PT fragments
XX
PS Claim 1a; Page 25; 30pp; English.
XX
CC This sequence represents a synthetic KL-4 pulmonary surfactant protein.
CC A novel process for its synthesis comprises: (a) reacting a 3-amino
CC acid peptide residue of formula H-Lys(Z)-Leu-Leu-OH with a 5-amino
CC acid peptide residue Boc-Leu-Leu-Lys(Z)-Leu-Leu-OH (II) to yield
CC an 8-amino acid peptide residue, which is successively reacted with the
CC 5-amino acid peptide to form an 18-amino acid peptide of formula
CC H-Leu-Leu(Lys(Z)-Leu4)3Lys(Z)-OBzl (IIIa); (b) reacting the 18 amino acid
CC peptide with a 3-residue amino acid peptide of formula H-Leu-Leu-
CC Lys(Z)-OBzl (X) to form the protected 21-amino acid KL-4 protein; and
CC (c) removing the protecting group of the 21-amino acid KL-4 protein by
CC reaction with a suitable acid to form the final KL-4 protein. The
CC methods can be used for the preparation of the polypeptide component of
CC the synthetic pulmonary surfactant KL-4 which can be used in the
CC treatment of respiratory distress syndrome. The saponification process
CC can provide for the deprotection of a peptide ester protected carboxyl
CC group with reduced racemisation. The liquid phase peptide processes
CC provide advantages in solubility and control over unwanted by-products.
XX
SQ Sequence 21 AA;

Query Match 100.0%; Score 26; DB 19; Length 21;
Best Local Similarity 100.0%; Pred. No. 31;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 1 kllllk 6

RESULT 15
AAW82278
ID AAW82278 standard; Peptide; 21 AA.
XX
AC AAW82278;
XX
DT 15-MAR-1999 (first entry)
XX
DE Surfactant peptide KL4.
XX
KW Surfactant; pulmonary lavage; inflammation; acute hypoaemia;
KW diaphramatic hernia; respiratory distress syndrome;
KW meconium aspiration syndrome; pneumonia; therapy.
XX
OS Synthetic.
XX
PN WO9849191-A1.
XX
PD 05-NOV-1998.
XX
PF 29-JAN-1998; 98WO-US01711.
XX
PR 28-APR-1997; 97US-0848580.
XX
PA (SCRI ) SCRIPPS RES INST.
XX
PI Cochrane CG, Revak SD;
XX
DR WPI; 1999-034654/03.
XX
PT Pulmonary lavage with dilute surfactant solution at positive
PT end-expiratory pressure - with removal of fluid using short periods
PT of suction, used to treat respiratory distress, e.g. in neonates
PT where caused by aspiration of meconium
XX
PS Claim 44; Page 123; 145pp; English.
XX
CC KL4 is a synthetic peptide that can be used in a synthetic
CC pulmonary surfactant of the invention. It is a mimic of human
CC surfactant protein SP-18. Synthetic pulmonary surfactants comprise
CC one or more phospholipids and a peptide having alternating
CC hydrophobic and hydrophilic regions, or alternating groups of
CC charged and uncharged amino acids (see AAW82278-82 and AAW88193-97).
CC The synthetic pulmonary surfactant is used in a claimed method for
CC pulmonary lavage of a mammal. Lavage is used to treat respiratory
CC distress syndrome caused by aspiration of meconium or gastric
CC contents, pulmonary inflammation or infection, acute hypoxaemia,
CC persistent foetal circulation, congenital diaphramatic hernia,
CC sepsis, trauma, pancreatitis, inhalation of hot or noxious vapour,
CC pneumonia or multiple transfusions. The lavage solution removes
CC inflammatory mediators and preserves or restores pulmonary

CC function.
XX
SQ Sequence 21 AA;

Query Match 100.0%; Score 26; DB 20; Length 21;
Best Local Similarity 100.0%; Pred. No. 31;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 KLLLLK 6
          ||||||
Db      1 kllllk 6
```

Search completed: June 17, 2002, 12:41:22
Job time: 297 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:42:57 ; Search time 46.42 Seconds
(without alignments)
12.420 Million cell updates/sec

Title: US-09-367-714A-28
Perfect score: 26
Sequence: 1 KLLLLK 6

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_71:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 26 | 100.0 | 110 | 2 | A47154 | conserved hypothet |
| 2 | 26 | 100.0 | 110 | 2 | F81868 | probable proline-r |
| 3 | 26 | 100.0 | 126 | 2 | B72621 | hypothetical prote |
| 4 | 26 | 100.0 | 205 | 2 | C87309 | peptidyl-tRNA hydr |
| 5 | 26 | 100.0 | 277 | 2 | AB2461 | hypothetical prote |
| 6 | 26 | 100.0 | 305 | 2 | A70212 | conserved hypothet |
| 7 | 26 | 100.0 | 321 | 2 | S51395 | hypothetical prote |
| 8 | 26 | 100.0 | 392 | 2 | A81745 | conserved hypothet |
| 9 | 26 | 100.0 | 403 | 2 | B71482 | hypothetical prote |
| 10 | 26 | 100.0 | 542 | 2 | B81910 | probable ABC-trans |
| 11 | 26 | 100.0 | 542 | 2 | E81105 | ABC transporter, A |
| 12 | 26 | 100.0 | 608 | 2 | T18437 | hypothetical prote |
| 13 | 26 | 100.0 | 641 | 2 | A39961 | choline O-acetyltr |
| 14 | 26 | 100.0 | 688 | 2 | S32961 | hypothetical prote |
| 15 | 26 | 100.0 | 748 | 2 | A60202 | choline O-acetyltr |
| 16 | 26 | 100.0 | 1855 | 2 | S41649 | DNA polymerase - m |
| 17 | 26 | 100.0 | 2431 | 1 | MNWVSF | nonstructural poly |
| 18 | 24 | 92.3 | 41 | 2 | T07329 | hypothetical prote |
| 19 | 24 | 92.3 | 80 | 2 | H84974 | hypothetical prote |
| 20 | 24 | 92.3 | 93 | 2 | S15948 | hypothetical prote |
| 21 | 24 | 92.3 | 95 | 2 | E95270 | hypothetical prote |
| 22 | 24 | 92.3 | 146 | 2 | C81036 | probable marR-fami |
| 23 | 24 | 92.3 | 165 | 2 | A64227 | hypothetical prote |
| 24 | 24 | 92.3 | 201 | 2 | AG1668 | hypothetical prote |
| 25 | 24 | 92.3 | 215 | 2 | A81693 | conserved hypothet |
| 26 | 24 | 92.3 | 215 | 2 | G71537 | hypothetical prote |
| 27 | 24 | 92.3 | 217 | 1 | B64600 | NAD(P)H-flavin oxi |
| 28 | 24 | 92.3 | 217 | 2 | H71912 | probable oxidoredu |
| 29 | 24 | 92.3 | 239 | 2 | T41951 | hypothetical prote |
| 30 | 24 | 92.3 | 239 | 2 | A81301 | probable anion-upt |
| 31 | 24 | 92.3 | 244 | 2 | T30358 | hypothetical prote |
| 32 | 24 | 92.3 | 260 | 2 | E90010 | hypothetical prote |
| 33 | 24 | 92.3 | 262 | 2 | A99155 | conserved hypothet |
| 34 | 24 | 92.3 | 294 | 2 | T19055 | hypothetical prote |
| 35 | 24 | 92.3 | 325 | 2 | T31977 | hypothetical prote |
| 36 | 24 | 92.3 | 328 | 2 | H75073 | hypothetical prote |
| 37 | 24 | 92.3 | 330 | 2 | AD2082 | iron(III) dicitrat |
| 38 | 24 | 92.3 | 333 | 2 | AB2130 | iron(III) dicitrat |
| 39 | 24 | 92.3 | 337 | 2 | T18708 | hypothetical prote |
| 40 | 24 | 92.3 | 346 | 2 | T13837 | NADH dehydrogenase |
| 41 | 24 | 92.3 | 352 | 1 | E71092 | hypothetical prote |
| 42 | 24 | 92.3 | 356 | 2 | T06756 | hypothetical prote |
| 43 | 24 | 92.3 | 386 | 2 | D42528 | B23R protein - vac |
| 44 | 24 | 92.3 | 387 | 2 | T26735 | hypothetical prote |
| 45 | 24 | 92.3 | 389 | 2 | AH3003 | penicillin-binding |

ALIGNMENTS

RESULT 1
A47154
conserved hypothetical protein ylxM - Bacillus subtilis
C;Species: Bacillus subtilis
C;Date: 16-Feb-1994 #sequence_revision 18-Nov-1994 #text_change 20-Jun-2000
C;Accession: A47154; A69882
R;Honda, K.; Nakamura, K.; Nishiguchi, M.; Yamane, K.
J. Bacteriol. 175, 4885-4894, 1993
A;Title: Cloning and characterization of a Bacillus subtilis gene encoding a homolog
A;Reference number: A47154; MUID:93328695
A;Accession: A47154
A;Status: preliminary
A;Molecule type: nucleic acid
A;Residues: 1-110 <HON>
A;Cross-references: GB:D14356; NID:g439700; PIDN:BAA22221.1; PID:g2424968
A;Note: sequence extracted from NCBI backbone (NCBIN:135652, NCBIP:135653)
R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Ber
C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.;
A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari,
Nature 390, 249-256, 1997
A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Gal
iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M
Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardino
A;Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mau
y, M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portete
Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanl
A;Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Se
akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiya
T.; Winters, P.; Wipat, A.; Yamamoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida
A;Authors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A.
A;Title: The complete genome sequence of the Gram-positive bacterium Bacillus subtili
A;Reference number: A69580; MUID:98044033
A;Accession: A69882
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-110 <KUN>
A;Cross-references: GB:Z99112; GB:AL009126; NID:g2633902; PIDN:CAB13470.1; PID:g26339
A;Experimental source: strain 168
C;Genetics:
A;Gene: ylxM
C;Superfamily: hypothetical protein A05_orf102

Query Match 100.0%; Score 26; DB 2; Length 110;
Best Local Similarity 100.0%; Pred. No. 36;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy       1 KLLLLK 6
           ||||||
Db      69 KLLLLK 74
```

RESULT 2
F81868
probable proline-rich repeat protein NMA1723 [imported] - Neisseria meningitidis (strain
C;Species: Neisseria meningitidis
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 02-Feb-2001
C;Accession: F81868
R;Parkhill, J.; Achtman, M.; James, K.D.; Bentley, S.D.; Churcher, C.; Klee, S.R.; Morel
; Holroyd, S.; Jagels, K.; Leather, S.; Moule, S.; Mungall, K.; Quail, M.A.; Rajandream,
Nature 404, 502-506, 2000
A;Title: Complete DNA sequence of a serogroup A strain of Neisseria menigitidis Z2491.
A;Reference number: A81775; MUID:20222556
A;Accession: F81868
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-110 <PAR>
A;Cross-references: GB:AL162756; GB:AL157959; NID:g7380091; PIDN:CAB84951.1; PID:g738036
A;Experimental source: serogroup A, strain Z2491
C;Genetics:
A;Gene: NMA1723

Query Match 100.0%; Score 26; DB 2; Length 110;
Best Local Similarity 100.0%; Pred. No. 36;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 50 KLLLLK 55

RESULT 3
B72621
hypothetical protein APE1427 - Aeropyrum pernix (strain K1)
C;Species: Aeropyrum pernix
C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Jun-2000
C;Accession: B72621
R;Kawarabayasi, Y.; Hino, Y.; Horikawa, H.; Yamazaki, S.; Haikawa, Y.; Jin-no, K.; Takah
awa, H.; Takamiya, M.; Masuda, S.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; K
DNA Res. 6, 83-101, 1999
A;Title: Complete genome sequence of an aerobic hyper-thermophilic Crenarchaeon, Aeropyr
A;Reference number: A72450; MUID:99310339
A;Accession: B72621
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-126 <KAW>
A;Cross-references: DDBJ:AP000061; NID:g5104821; PIDN:BAA80424.1; PID:g5105110
A;Experimental source: strain K1
C;Genetics:
A;Gene: APE1427
C;Superfamily: Aeropyrum pernix hypothetical protein APE1427

Query Match 100.0%; Score 26; DB 2; Length 126;
Best Local Similarity 100.0%; Pred. No. 41;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 62 KLLLLK 67

RESULT 4
C87309
peptidyl-tRNA hydrolase [imported] - Caulobacter crescentus
C;Species: Caulobacter crescentus
C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 14-Sep-2001
C;Accession: C87309
R;Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, J.
B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Kolon
n, J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C.M.
Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
A;Reference number: A87249; MUID:21173698; PMID:11259647
A;Accession: C87309
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-205 <STO>
A;Cross-references: GB:AE005673; NID:g13421661; PIDN:AAK22471.1; GSPDB:GN00148
C;Genetics:
A;Gene: CC0484
C;Superfamily: peptidyl-tRNA hydrolase

Query Match 100.0%; Score 26; DB 2; Length 205;
Best Local Similarity 100.0%; Pred. No. 64;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 59 KLLLLK 64

RESULT 5
AB2461
hypothetical protein alr5242 [imported] - Anabaena sp. (strain PCC 7120)
C;Species: Anabaena sp.
A;Note: Anabaena sp. (strain PCC 7120) is a synonym of Nostoc sp. strain PCC 7120
C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 11-Jan-2002
C;Accession: AB2461
R;Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Irigu
Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata
DNA Res. 8, 205-213, 2001
A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium
A;Reference number: AB1807; MUID:21595285; PMID:11759840
A;Accession: AB2461
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-277 <KUR>
A;Cross-references: GB:BA000019; PIDN:BAB76941.1; PID:g17134381; GSPDB:GN00179
A;Experimental source: strain PCC 7120
C;Genetics:
A;Gene: alr5242

Query Match 100.0%; Score 26; DB 2; Length 277;
Best Local Similarity 100.0%; Pred. No. 86;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 66 KLLLLK 71

RESULT 6
A70212
conserved hypothetical protein BBA41 - Lyme disease spirochete plasmid A/lp54
C;Species: Borrelia burgdorferi (Lyme disease spirochete)
C;Date: 13-Feb-1998 #sequence_revision 13-Feb-1998 #text_change 08-Oct-1999
C;Accession: A70212
R;Fraser, C.M.; Casjens, S.; Huang, W.M.; Sutton, G.G.; Clayton, R.; Lathigra, R.; Wh
son, D.; Peterson, J.; Kerlavage, A.R.; Quackenbush, J.; Salzberg, S.; Hanson, M.; Vu
; Bowman, C.; Garland, S.; Fujii, C.; Cotton, M.D.; Horst, K.; Roberts, K.; Hatch, B.
Nature 390, 580-586, 1997
A;Authors: Smith, H.O.; Venter, J.C.
A;Title: Genomic sequence of a Lyme disease spirochaete, Borrelia burgdorferi.
A;Reference number: A70100; MUID:98065943
A;Accession: A70212
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-305 <KLE>
A;Cross-references: GB:AE000790; NID:g2690224; PIDN:AAC66251.1; PID:g2690250; TIGR:BB
A;Experimental source: strain B31
C;Genetics:
A;Genome: plasmid

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  Query Match           100.0%;  Score 26;  DB 2;  Length 305;
  Best Local Similarity  100.0%;  Pred. No. 94;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db    257 KLLLLK 262


RESULT   7
S51395
hypothetical protein YLR257w - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein L8479.9
C;Species: Saccharomyces cerevisiae
C;Date: 05-May-1995 #sequence_revision 12-May-1995 #text_change 05-Nov-1999
C;Accession: S51395
R;Miller, N.
submitted to the EMBL Data Library, November 1994
A;Description: The sequence of S. cerevisiae cosmid 8479.
A;Reference number: S51395
A;Accession: S51395
A;Molecule type: DNA
A;Residues: 1-321 <MIL>
A;Cross-references: EMBL:U17244; NID:g577171; PIDN:AAB67379.1; PID:g577180; GSPDB:GN0001
C;Genetics:
A;Gene: MIPS:YLR257w
A;Map position: 12R


  Query Match           100.0%;  Score 26;  DB 2;  Length 321;
  Best Local Similarity  100.0%;  Pred. No. 99;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db    109 KLLLLK 114


RESULT   8
A81745
conserved hypothetical protein TC0068 [imported] - Chlamydia muridarum (strain Nigg)
C;Species: Chlamydia muridarum, Chlamydia trachomatis MoPn
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 18-Aug-2000
C;Accession: A81745
R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey,
, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg,
Nucleic Acids Res. 28, 1397-1406, 2000
A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39.
A;Reference number: A81500; MUID:20150255
A;Accession: A81745
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-392 <TET>
A;Cross-references: GB:AE002275; GB:AE002160; NID:g7190108; PIDN:AAF38951.1; PID:g719010
A;Experimental source: strain Nigg (MoPn)
C;Genetics:
A;Gene: TC0068
C;Superfamily: conserved hypothetical protein CP0072


  Query Match           100.0%;  Score 26;  DB 2;  Length 392;
  Best Local Similarity  100.0%;  Pred. No. 1.2e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db    113 KLLLLK 118


RESULT   9
B71482
hypothetical protein CT696 - Chlamydia trachomatis (serotype D, strain UW3/Cx)
C;Species: Chlamydia trachomatis
C;Date: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change 18-Aug-2000
C;Accession: B71482
R;Stephens, R.S.; Kalman, S.; Lammel, C.J.; Fan, J.; Marathe, R.; Aravind, L.; Mitche
Science 282, 754-759, 1998
A;Title: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia t
A;Reference number: A71570; MUID:99000809
A;Accession: B71482
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-403 <ARN>
A;Cross-references: GB:AE001340; GB:AE001273; NID:g3329147; PIDN:AAC68291.1; PID:g332
A;Experimental source: serotype D, strain UW-3/Cx
C;Genetics:
A;Gene: CT696
C;Superfamily: conserved hypothetical protein CP0072


  Query Match           100.0%;  Score 26;  DB 2;  Length 403;
  Best Local Similarity  100.0%;  Pred. No. 1.2e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db    124 KLLLLK 129


RESULT  10
B81910
probable ABC-transporter ATP-binding protein NMA1409 [imported] - Neisseria meningiti
C;Species: Neisseria meningitidis
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 02-Feb-2001
C;Accession: B81910
R;Parkhill, J.; Achtman, M.; James, K.D.; Bentley, S.D.; Churcher, C.; Klee, S.R.; Mo
; Holroyd, S.; Jagels, K.; Leather, S.; Moule, S.; Mungall, K.; Quail, M.A.; Rajandre
Nature 404, 502-506, 2000
A;Title: Complete DNA sequence of a serogroup A strain of Neisseria menigitidis Z2491
A;Reference number: A81775; MUID:20222556
A;Accession: B81910
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-542 <PAR>
A;Cross-references: GB:AL162755; GB:AL157959; NID:g7379742; PIDN:CAB84649.1; PID:g738
A;Experimental source: serogroup A, strain Z2491
C;Genetics:
A;Gene: NMA1409
C;Superfamily: unassigned ATP-binding cassette proteins; ATP-binding cassette homolog


  Query Match           100.0%;  Score 26;  DB 2;  Length 542;
  Best Local Similarity  100.0%;  Pred. No. 1.6e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db    462 KLLLLK 467


RESULT  11
E81105
ABC transporter, ATP-binding protein NMB1240 [imported] - Neisseria meningitidis (str
C;Species: Neisseria meningitidis
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 19-Jan-2001
C;Accession: E81105
R;Tettelin, H.; Saunders, N.J.; Heidelberg, J.; Jeffries, A.C.; Nelson, K.E.; Eisen,
Hickey, E.K.; Haft, D.H.; Salzberg, S.L.; White, O.; Fleischmann, R.D.; Dougherty, B.
ri, H.; Qin, H.; Vamathevan, J.; Gill, J.; Scarlato, V.; Masignani, V.; Pizza, M.
Science 287, 1809-1815, 2000
A;Authors: Grandi, G.; Sun, L.; Smith, H.O.; Fraser, C.M.; Moxon, E.R.; Rappuoli, R.;
A;Title: Complete genome sequence of Neisseria meningitidis serogroup B strain MC58.
A;Reference number: A81000; MUID:20175755
A;Accession: E81105
A;Status: preliminary
A;Molecule type: DNA
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A;Residues: 1-542 <TET>
A;Cross-references: GB:AE002472; GB:AE002098; NID:g7226475; PIDN:AAF41621.1; PID:g722648
A;Experimental source: serogroup B, strain MC58
C;Genetics:
A;Gene: NMB1240
C;Superfamily: unassigned ATP-binding cassette proteins; ATP-binding cassette homology

Query Match 100.0%; Score 26; DB 2; Length 542;
Best Local Similarity 100.0%; Pred. No. 1.6e+02;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 462 KLLLLK 467

RESULT 12
T18437
hypothetical protein C0405c - malaria parasite (Plasmodium falciparum)
C;Species: Plasmodium falciparum
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jun-2000
C;Accession: T18437
R;Lawson, D.; Bowman, S.; Barrell, B.
submitted to the EMBL Data Library, August 1997
A;Reference number: Z18935
A;Accession: T18437
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-608 <LAW>
A;Cross-references: EMBL:Z98547; NID:e1325376; PID:e1325391; PIDN:CAB11116.1
C;Genetics:
A;Map position: 3
A;Note: C0405c

Query Match 100.0%; Score 26; DB 2; Length 608;
Best Local Similarity 100.0%; Pred. No. 1.8e+02;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 500 KLLLLK 505

RESULT 13
A39961
choline O-acetyltransferase (EC 2.3.1.6) precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 08-Nov-1991 #sequence_revision 08-Nov-1991 #text_change 05-May-2000
C;Accession: A39961; PH1572; A28047; I46574
R;Berrard, S.; Brice, A.; Lottspeich, F.; Braun, A.; Barde, Y.A.; Mallet, J.
Proc. Natl. Acad. Sci. U.S.A. 84, 9280-9284, 1987
A;Title: cDNA cloning and complete sequence of porcine choline acetyltransferase: in vit
A;Reference number: A39961; MUID:88097472
A;Accession: A39961
A;Molecule type: mRNA
A;Residues: 1-641 <BER>
A;Cross-references: GB:J03021; NID:g164377; PIDN:AAA31000.1; PID:g164378
R;Hersh, L.B.; Kong, C.F.; Sampson, C.; Mues, G.; Li, Y.P.; Fisher, A.; Hilt, D.; Baetge
J. Neurochem. 61, 306-314, 1993
A;Title: Comparison of the promoter region of the human and porcine choline acetyltransf
A;Reference number: PH1571; MUID:93294599
A;Accession: PH1572
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-22 <HER>
R;Braun, A.; Barde, Y.A.; Lottspeich, F.; Mewes, W.; Thoenen, H.
J. Neurochem. 48, 16-21, 1987
A;Title: N-terminal sequence of pig brain choline acetyltransferase purified by a rapid
A;Reference number: A28047; MUID:87085562
A;Accession: A28047
A;Molecule type: protein
A;Residues: 2-12 <BRA>
R;Berrard, S.; Brice, A.E.; Mallet, J.
Brain Res. Bull. 22, 147-153, 1989
A;Title: Molecular genetic approach to the study of mammalian choline acetyltransfera
A;Reference number: I46574; MUID:89229974
A;Accession: I46574
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-641 <BE2>
A;Cross-references: GB:M27736; NID:g164414; PIDN:AAA31015.1; PID:g164415
C;Comment: This enzyme is responsible for the biosynthesis of the neurotransmitter ac
C;Superfamily: carnitine O-acetyltransferase
C;Keywords: acyltransferase; coenzyme A

Query Match 100.0%; Score 26; DB 2; Length 641;
Best Local Similarity 100.0%; Pred. No. 1.9e+02;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 489 KLLLLK 494

RESULT 14
S32961
hypothetical protein YBR259w - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein YBR1727
C;Species: Saccharomyces cerevisiae
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 04-Mar-2000
C;Accession: S32961; S46140
R;Doignon, F.; Biteau, N.; Crouzet, M.; Aigle, M.
Yeast 9, 189-199, 1993
A;Title: The complete sequence of a 19,482 bp segment located on the right arm of chr
A;Reference number: S29348; MUID:93220397
A;Accession: S32961
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-688 <DOI>
A;Cross-references: EMBL:X70529; NID:g1907246; PIDN:CAA49923.1; PID:g296558
R;Aigle, M.; Baclet, M.C.; Barthe, C.; Biteau, N.; Crouzet, M.; Doignon, F.
submitted to the Protein Sequence Database, August 1994
A;Reference number: S45940
A;Accession: S46140
A;Molecule type: DNA
A;Residues: 1-688 <AIG>
A;Cross-references: EMBL:Z36128; NID:g536684; PIDN:CAA85222.1; PID:g536685; MIPS:YBR2
C;Genetics:
A;Map position: 2R
C;Superfamily: Saccharomyces cerevisiae hypothetical protein YBR259w

Query Match 100.0%; Score 26; DB 2; Length 688;
Best Local Similarity 100.0%; Pred. No. 2e+02;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 655 KLLLLK 660

RESULT 15
A60202
choline O-acetyltransferase (EC 2.3.1.6) - human
N;Alternate names: choline acetylase
C;Species: Homo sapiens (man)
C;Date: 10-Nov-1992 #sequence_revision 13-Mar-1997 #text_change 03-Nov-2000
C;Accession: I52631; A60202; S24416; S14483; PH1571; T01786; PC4342; PC4344; PC4343
R;Oda, Y.; Nakanishi, I.; Deguchi, T.
Brain Res. Mol. Brain Res. 16, 287-294, 1992
A;Title: A complementary DNA for human choline acetyltransferase induces two forms of
A;Reference number: I52631; MUID:93180642
A;Accession: I52631

A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-748 <RES>
A;Cross-references: GB:S56138; NID:g301095; PID:g301096
R;Hersh, L.B.; Takane, K.; Gylys, K.; Moomaw, C.; Slaughter, C.
J. Neurochem. 51, 1843-1845, 1988
A;Title: Conservation of amino acid sequences between human and porcine choline acetyltr
A;Reference number: A60202; MUID:89036242
A;Accession: A60202
A;Molecule type: protein
A;Residues: 'XX',163-182;271-295;340-352;376-382;404-415;550-559;572-583;620-632;644-648
R;Toussaint, J.L.; Geoffroy, V.; Schmitt, M.; Werner, A.; Garnier, J.M.; Simoni, P.; Ken
Genomics 12, 412-416, 1992
A;Title: Human choline acetyltransferase (CHAT): partial gene sequence and potential con
A;Reference number: S24416; MUID:92155737
A;Accession: S24416
A;Molecule type: DNA
A;Residues: 109-150,'Q',152-232 <TOU>
A;Cross-references: EMBL:X56585; NID:g29938; PIDN:CAA39923.1; PID:g29939
R;Cervini, R.; Rocchi, M.; DiDonato, S.; Finocchiaro, G.
submitted to the EMBL Data Library, January 1991
A;Description: Isolation and sub-chromosomal localization of a DNA fragment of the human
A;Reference number: S14483
A;Accession: S14483
A;Molecule type: DNA
A;Residues: 688-738 <CER>
A;Cross-references: EMBL:X56879; NID:g29940; PID:g29941
R;Hersh, L.B.; Kong, C.F.; Sampson, C.; Mues, G.; Li, Y.P.; Fisher, A.; Hilt, D.; Baetge
J. Neurochem. 61, 306-314, 1993
A;Title: Comparison of the promoter region of the human and porcine choline acetyltransf
A;Reference number: PH1571; MUID:93294599
A;Accession: PH1571
A;Status: translation not shown; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-95 <HE2>
A;Experimental source: GB:L33837
A;Note: GenBank sequence g505335 (accession L33837) is missing one nucleotide C at posit
R;Lorenzi, M.V.; Trinidad, A.C.; Zhang, R.; Strauss, W.L.
DNA Cell Biol. 11, 593-603, 1992
A;Title: Two mRNAs are transcribed from the human gene for choline acetyltransferase.
A;Reference number: Z14429; MUID:93000480
A;Accession: T01786
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 111-119,'T',121-260,'GQ',263-391,'A',393-395,'L',397-433,'G',435-528,'S',530
A;Cross-references: EMBL:S45018; NID:g257109; PIDN:AAB23557.2; PID:g5705927
R;Misawa, H.; Matsuura, J.; Oda, Y.; Takahashi, R.; Deguchi, T.
Mol. Brain Res. 44, 323-333, 1997
A;Title: Human choline acetyltransferase mRNAs with different 5'-region produce a 69-kDa
A;Reference number: PC4342; MUID:97225904
A;Accession: PC4342
A;Molecule type: mRNA
A;Residues: 119-167,'E',169-256 <MIS>
A;Cross-references: DDBJ:D82340
A;Experimental source: brain
A;Accession: PC4344
A;Molecule type: mRNA
A;Residues: 119-152 <MI3>
A;Cross-references: DDBJ:D82341; NID:g1906787; PIDN:BAA18945.1; PID:d1019686; PID:g19067
A;Experimental source: brain
A;Accession: PC4343
A;Molecule type: mRNA
A;Residues: 119-152 <MI2>
A;Cross-references: DDBJ:D82342; NID:g1906789; PIDN:BAA18946.1; PID:d1019687; PID:g19067
A;Experimental source: brain
C;Comment: This enzyme is responsible for the biosynthesis of the neurotransmitter acety
C;Comment: This enzyme is involved in the synthesis of the neurotransmitter acetylcholin
C;Comment: This enzyme is involved in the synthesis of the neurotransmitter acetylcholin
C;Genetics:
A;Gene: GDB:CHAT
A;Cross-references: GDB:119775; OMIM:118490
A;Map position: 10q11.2-10q11.2
A;Introns: 129/3; 193/3

C;Superfamily: carnitine O-acetyltransferase
C;Keywords: acyltransferase; coenzyme A

Query Match 100.0%; Score 26; DB 2; Length 748;
Best Local Similarity 100.0%; Pred. No. 2.2e+02;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
|||||| 
Db 596 KLLLLK 601

Search completed: June 17, 2002, 12:42:59
Job time: 254 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:44:45 ; Search time 21.35 Seconds
(without alignments)
10.881 Million cell updates/sec

Title: US-09-367-714A-28
Perfect score: 26
Sequence: 1 KLLLLK 6

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | | Description |
|---|---|---|---|---|---|---|---|
| 1 | 26 | 100.0 | 110 | 1 | YLXM_BACSU | P37104 | bacillus su |
| 2 | 26 | 100.0 | 194 | 1 | YZ10_AQUAE | O66404 | aquifex aeo |
| 3 | 26 | 100.0 | 392 | 1 | Y068_CHLMU | Q9pln1 | chlamydia m |
| 4 | 26 | 100.0 | 392 | 1 | Y696_CHLTR | O84702 | chlamydia t |
| 5 | 26 | 100.0 | 640 | 1 | CLAT_PIG | P13222 | sus scrofa |
| 6 | 26 | 100.0 | 688 | 1 | YB9F_YEAST | P38338 | saccharomyc |
| 7 | 26 | 100.0 | 748 | 1 | CLAT_HUMAN | P28329 | homo sapien |
| 8 | 26 | 100.0 | 2431 | 1 | POLN_SFV | P08411 | semliki for |
| 9 | 24 | 92.3 | 80 | 1 | Y385_BUCAI | P57465 | buchnera ap |
| 10 | 24 | 92.3 | 93 | 1 | YSC1_THEFL | P25124 | thermus aqu |
| 11 | 24 | 92.3 | 165 | 1 | Y245_MYCGE | P47487 | mycoplasma |
| 12 | 24 | 92.3 | 239 | 1 | UL24_HSV7J | P52386 | human herpe |
| 13 | 24 | 92.3 | 260 | 1 | HPA1_HELPY | Q48264 | helicobacte |
| 14 | 24 | 92.3 | 386 | 1 | VC17_VACCC | P21101 | vaccinia vi |
| 15 | 24 | 92.3 | 391 | 1 | DNM2_HUMAN | O14717 | homo sapien |
| 16 | 24 | 92.3 | 399 | 1 | XYLR_CALSR | P40981 | caldicellul |
| 17 | 24 | 92.3 | 401 | 1 | ISPE_LYCES | P93841 | lycopersico |
| 18 | 24 | 92.3 | 407 | 1 | MNDA_HUMAN | P41218 | homo sapien |
| 19 | 24 | 92.3 | 439 | 1 | AKR_ARATH | Q05753 | arabidopsis |
| 20 | 24 | 92.3 | 469 | 1 | C39A_HUMAN | Q9ny15 | homo sapien |
| 21 | 24 | 92.3 | 565 | 1 | HXB1_HAEIN | P44601 | haemophilus |
| 22 | 24 | 92.3 | 565 | 1 | HXB2_HAEIN | P45356 | haemophilus |
| 23 | 24 | 92.3 | 1005 | 1 | YCF1_OENBE | P31563 | oenothera b |
| 24 | 24 | 92.3 | 1066 | 1 | KL61_DROME | P46863 | drosophila |
| 25 | 24 | 92.3 | 1139 | 1 | KPC1_TRIRE | Q99014 | trichoderma |
| 26 | 24 | 92.3 | 1804 | 1 | YFA7_YEAST | P43583 | saccharomyc |
| 27 | 24 | 92.3 | 2052 | 1 | FYV1_MOUSE | Q9z1t6 | mus musculu |
| 28 | 23 | 88.5 | 25 | 1 | SPIG_PSEUS | P82357 | pseudacanth |
| 29 | 23 | 88.5 | 88 | 1 | Y007_STRPN | Q97tc9 | streptococc |
| 30 | 23 | 88.5 | 108 | 1 | RK21_CYACA | O19884 | cyanidium c |
| 31 | 23 | 88.5 | 121 | 1 | RL3_ACTAC | P94799 | actinobacil |
| 32 | 23 | 88.5 | 123 | 1 | YB8F_YEAST | P38357 | saccharomyc |
| 33 | 23 | 88.5 | 130 | 1 | CW36_YEAST | P25603 | saccharomyc |
| 34 | 23 | 88.5 | 156 | 1 | SOXR_PSEAE | Q51506 | pseudomonas |
| 35 | 23 | 88.5 | 178 | 1 | CASK_RAT | P04468 | rattus norv |
| 36 | 23 | 88.5 | 190 | 1 | YEIP_ECOLI | P33028 | escherichia |
| 37 | 23 | 88.5 | 208 | 1 | RL3_HAEIN | P44344 | haemophilus |
| 38 | 23 | 88.5 | 265 | 1 | HEM4_HUMAN | P10746 | homo sapien |
| 39 | 23 | 88.5 | 265 | 1 | HEM4_MOUSE | P51163 | mus musculu |
| 40 | 23 | 88.5 | 362 | 1 | MTM1_MICAM | P50190 | microbacter |
| 41 | 23 | 88.5 | 388 | 1 | ARP2_ACACA | P53487 | acanthamoeb |
| 42 | 23 | 88.5 | 394 | 1 | ARP2_CHICK | P53488 | gallus gall |
| 43 | 23 | 88.5 | 394 | 1 | ARP2_HUMAN | O15142 | homo sapien |
| 44 | 23 | 88.5 | 395 | 1 | ARP2_DROME | P45888 | drosophila |
| 45 | 23 | 88.5 | 399 | 1 | XYLR_ANATH | Q44406 | anaerocellu |

ALIGNMENTS

RESULT 1
YLXM_BACSU
ID YLXM_BACSU STANDARD; PRT; 110 AA.
AC P37104;
DT 01-OCT-1994 (Rel. 30, Created)
DT 01-OCT-1994 (Rel. 30, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Hypothetical 13.2 kDa protein in ftsY-ffh intergenic region.
GN YLXM.
OS Bacillus subtilis.
OC Bacteria; Firmicutes; Bacillus/Clostridium group;
OC Bacillus/Staphylococcus group; Bacillus.
OX NCBI_TaxID=1423;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=168;
RX MEDLINE=93328695; PubMed=8335643;
RA Honda K., Nakamura K., Nishiguchi M., Yamane K.;
RT "Cloning and characterization of a Bacillus subtilis gene encoding a
RT homolog of the 54-kilodalton subunit of mammalian signal recognition
RT particle and Escherichia coli Ffh.";
RL J. Bacteriol. 175:4885-4894(1993).
CC -!- FUNCTION: NOT KNOWN. COULD TAKE PART IN THE SIGNAL RECOGNITION
CC PARTICLE (SRP) PATHWAY. THIS IS INFERRED DUE TO THE CONSERVATION
CC OF ITS GENETIC PROXIMITY TO FTSY/FFH. MAY BE A REGULATORY PROTEIN.
CC -!- SIMILARITY: BELONGS TO THE UPF0122 FAMILY.
CC ----------------------------------------------------------------------

CC ----------------------------------------------------------------------
DR EMBL; D14356; BAA22221.1; -.
DR EMBL; Z99112; CAB13470.1; -.
DR PIR; A47154; A47154.
DR SubtiList; BG10829; ylxM.
KW Hypothetical protein; Complete proteome.
SQ SEQUENCE 110 AA; 13165 MW; 8DFFEE0A940CD6B9 CRC64;

Query Match 100.0%; Score 26; DB 1; Length 110;
Best Local Similarity 100.0%; Pred. No. 13;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLLK 6
||||||
Db 69 KLLLLK 74

RESULT 2
YZ10_AQUAE
ID YZ10_AQUAE STANDARD; PRT; 194 AA.
AC O66404;

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DT   30-MAY-2000 (Rel. 39, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Hypothetical protein AA10.
GN   AA10.
OS   Aquifex aeolicus.
OG   Plasmid ecel.
OC   Bacteria; Aquificales; Aquificaceae; Aquifex.
OX   NCBI_TaxID=63363;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=VF5;
RX   MEDLINE=98196666; PubMed=9537320;
RA   Deckert G., Warren P.V., Gaasterland T., Young W.G., Lenox A.L.,
RA   Graham D.E., Overbeek R., Snead M.A., Keller M., Aujay M., Huber R.,
RA   Feldman R.A., Short J.M., Olson G.J., Swanson R.V.;
RT   "The complete genome of the hyperthermophilic bacterium Aquifex
RT   aeolicus.";
RL   Nature 392:353-358(1998).
CC   -!- SIMILARITY: TO A.AEOLICUS AQ_423.
CC   ---------------------------------------------------------------------
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CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC   ---------------------------------------------------------------------
DR   EMBL; AE000667; AAC07956.1; -.
KW   Hypothetical protein; Plasmid; Complete proteome.
SQ   SEQUENCE   194 AA;  23393 MW;  816FF102AD5E317D CRC64;

  Query Match           100.0%;  Score 26;  DB 1;  Length 194;
  Best Local Similarity  100.0%;  Pred. No. 23;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db     60 KLLLLK 65


RESULT   3
Y068_CHLMU
ID   Y068_CHLMU     STANDARD;      PRT;   392 AA.
AC   Q9PLN1;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Hypothetical protein TC0068.
GN   TC0068.
OS   Chlamydia muridarum.
OC   Bacteria; Chlamydiales; Chlamydiaceae; Chlamydia.
OX   NCBI_TaxID=83560;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=MoPn / Nigg;
RX   MEDLINE=20150255; PubMed=10684935;
RA   Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
RA   White O., Hickey E.K., Peterson J., Utterback T., Berry K., Bass S.,
RA   Linher K., Weidman J., Khouri H., Craven B., Bowman C., Dodson R.,
RA   Gwinn M., Nelson W., DeBoy R., Kolonay J., McClarty G., Salzberg S.L.,
RA   Eisen J., Fraser C.M.;
RT   "Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
RT   pneumoniae AR39.";
RL   Nucleic Acids Res. 28:1397-1406(2000).
CC   -!- SIMILARITY: BELONGS TO THE CHLAMYDIAL CPN0675/CT696/TC0068
CC       FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; AE002274; AAF38951.1; -.
DR   TIGR; TC0068; -.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   392 AA;  45694 MW;  8C7257499347A7C4 CRC64;

  Query Match           100.0%;  Score 26;  DB 1;  Length 392;
  Best Local Similarity  100.0%;  Pred. No. 45;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db    113 KLLLLK 118


RESULT   4
Y696_CHLTR
ID   Y696_CHLTR     STANDARD;      PRT;   392 AA.
AC   O84702;
DT   30-MAY-2000 (Rel. 39, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Hypothetical protein CT696.
GN   CT696.
OS   Chlamydia trachomatis.
OC   Bacteria; Chlamydiales; Chlamydiaceae; Chlamydia.
OX   NCBI_TaxID=813;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=D/UW-3/CX;
RX   MEDLINE=99000809; PubMed=9784136;
RA   Stephens R.S., Kalman S., Lammel C.J., Fan J., Marathe R., Aravind L.,
RA   Mitchell W.P., Olinger L., Tatusov R.L., Zhao Q., Koonin E.V.,
RA   Davis R.W.;
RT   "Genome sequence of an obligate intracellular pathogen of humans:
RT   Chlamydia trachomatis.";
RL   Science 282:754-759(1998).
CC   -!- SIMILARITY: BELONGS TO THE CHLAMYDIAL CPN0675/CT696/TC0068
CC       FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AE001340; AAC68291.2; -.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   392 AA;  45712 MW;  4EC06DEE24CF8E69 CRC64;

  Query Match           100.0%;  Score 26;  DB 1;  Length 392;
  Best Local Similarity  100.0%;  Pred. No. 45;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db    113 KLLLLK 118


RESULT   5
CLAT_PIG
ID   CLAT_PIG       STANDARD;      PRT;   640 AA.
AC   P13222;
DT   01-JAN-1990 (Rel. 13, Created)
DT   01-APR-1990 (Rel. 14, Last sequence update)
```

```
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Choline O-acetyltransferase (EC 2.3.1.6) (CHOACTase) (Choline
DE   acetylase) (ChAT).
GN   CHAT.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Ventral spinal cord;
RX   MEDLINE=88097472; PubMed=3480542;
RA   Berrard S., Brice A., Lottspeich F., Braun A., Barde Y.-A., Mallet J.;
RT   "cDNA cloning and complete sequence of porcine choline
RT   acetyltransferase: in vitro translation of the corresponding RNA
RT   yields an active protein.";
RL   Proc. Natl. Acad. Sci. U.S.A. 84:9280-9284(1987).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Ventral spinal cord;
RX   MEDLINE=89229974; PubMed=2713713;
RA   Berrard S., Brice A., Mallet J.;
RT   "Molecular genetic approach to the study of mammalian choline
RT   acetyltransferase.";
RL   Brain Res. Bull. 22:147-153(1989).
RN   [3]
RP   SEQUENCE OF 1-11.
RC   TISSUE=Brain;
RX   MEDLINE=87085562; PubMed=3794697;
RA   Braun A., Barde Y.-A., Lottspeich F., Mewes H.-W., Thoenen H.;
RT   "N-terminal sequence of pig brain choline acetyltransferase purified
RT   by a rapid procedure.";
RL   J. Neurochem. 48:16-21(1987).
CC   -!- FUNCTION: Catalyzes the reversible synthesis of acetylcholine
CC       (ACh) from acetyl CoA and choline at cholinergic synapses.
CC   -!- CATALYTIC ACTIVITY: Acetyl-CoA + choline = CoA + O-acetylcholine.
CC   -!- SIMILARITY: BELONGS TO THE CARNITINE/CHOLINE ACETYLTRANSFERASE
CC       FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; J03021; AAA31000.1; -.
DR   EMBL; M27736; AAA31015.1; -.
DR   PIR; A28047; A28047.
DR   PIR; A39961; A39961.
DR   InterPro; IPR000542; Carn_acyltransf.
DR   Pfam; PF00755; Carn_acyltransf; 1.
DR   PROSITE; PS00439; ACYLTRANSF_C_1; 1.
DR   PROSITE; PS00440; ACYLTRANSF_C_2; 1.
KW   Transferase; Acyltransferase; Neurotransmitter biosynthesis.
FT   INIT_MET      0      0
FT   ACT_SITE    333    333       POTENTIAL.
SQ   SEQUENCE   640 AA;  71599 MW;  5ECC27BE8B7CC317 CRC64;


  Query Match             100.0%;  Score 26;  DB 1;  Length 640;
  Best Local Similarity   100.0%;  Pred. No. 73;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
           ||||||
Db     488 KLLLLK 493


RESULT   6
YB9F_YEAST
ID   YB9F_YEAST     STANDARD;      PRT;   688 AA.
AC   P38338;
DT   01-OCT-1994 (Rel. 30, Created)
DT   01-OCT-1994 (Rel. 30, Last sequence update)
DT   15-JUL-1998 (Rel. 36, Last annotation update)
DE   Hypothetical 80.4 kDa protein in POP4-SHM1 intergenic region.
GN   YBR259W OR YBR1727.
OS   Saccharomyces cerevisiae (Baker's yeast).
OC   Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
OC   Saccharomycetales; Saccharomycetaceae; Saccharomyces.
OX   NCBI_TaxID=4932;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=S288C;
RX   MEDLINE=93220397; PubMed=8465606;
RA   Doignon F., Biteau N., Crouzet M., Aigle M.;
RT   "The complete sequence of a 19,482 bp segment located on the right
RT   arm of chromosome II from Saccharomyces cerevisiae.";
RL   Yeast 9:189-199(1993).
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; X70529; CAA49923.1; -.
DR   EMBL; Z36128; CAA85222.1; -.
DR   PIR; S32961; S32961.
DR   SGD; S0000463; YBR259W.
KW   Hypothetical protein.
SQ   SEQUENCE   688 AA;  80426 MW;  0BA84837BD7A4B30 CRC64;


  Query Match             100.0%;  Score 26;  DB 1;  Length 688;
  Best Local Similarity   100.0%;  Pred. No. 78;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
           ||||||
Db     655 KLLLLK 660


RESULT   7
CLAT_HUMAN
ID   CLAT_HUMAN     STANDARD;      PRT;   748 AA.
AC   P28329; Q16488; Q9BQE1; Q9BQ35; Q9BQ23;
DT   01-DEC-1992 (Rel. 24, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Choline O-acetyltransferase (EC 2.3.1.6) (CHOACTase) (Choline
DE   acetylase) (ChAT).
GN   CHAT.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Spinal cord;
RX   MEDLINE=93180642; PubMed=1337937;
RA   Oda Y., Nakanishi I., Deguchi T.;
RT   "A complementary DNA for human choline acetyltransferase induces two
RT   forms of enzyme with different molecular weights in cultured cells.";
RL   Brain Res. Mol. Brain Res. 16:287-294(1992).
RN   [2]
RP   SEQUENCE FROM N.A., ALTERNATIVE SPLICING, VARIANTS FIMG2 P-210; A-211;
RP   T-305; C-420; K-441; G-482; L-498; L-506 AND H-560, AND VARIANTS T-120
RP   AND G-392.
RX   MEDLINE=21117155; PubMed=11172068;
RA   Ohno K., Tsujino A., Brengman J.M., Harper C.M., Bajzer Z., Udd B.,
RA   Beyring R., Robb S., Kirkham F.J., Engel A.G.;
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RT   "Choline acetyltransferase mutations cause myasthenic syndrome
RT   associated with episodic apnea in humans.";
RL   Proc. Natl. Acad. Sci. U.S.A. 98:2017-2022(2001).
RN   [3]
RP   SEQUENCE OF 111-669 FROM N.A.
RX   MEDLINE=93000480; PubMed=1388731;
RA   Lorenzi M.V., Trinidad A.C., Zhang R., Strauss W.L.;
RT   "Two mRNAs are transcribed from the human gene for choline
RT   acetyltransferase.";
RL   DNA Cell Biol. 11:593-603(1992).
RN   [4]
RP   SEQUENCE OF 109-232 FROM N.A.
RX   MEDLINE=92155737; PubMed=1339386;
RA   Toussaint J.L., Geoffroy V., Schmitt M., Werner A., Garnier J.M.,
RA   Simoni P., Kempf J.;
RT   "Human choline acetyltransferase (CHAT): partial gene sequence and
RT   potential control regions.";
RL   Genomics 12:412-416(1992).
RN   [5]
RP   SEQUENCE OF 688-738 FROM N.A.
RC   TISSUE=Lymphocytes;
RX   MEDLINE=92149876; PubMed=1784419;
RA   Cervini R., Rocchi M., DiDonato S., Finocchiaro G.;
RT   "Isolation and sub-chromosomal localization of a DNA fragment of the
RT   human choline acetyltransferase gene.";
RL   Neurosci. Lett. 132:191-194(1991).
CC   -!- FUNCTION: Catalyzes the reversible synthesis of acetylcholine
CC       (ACh) from acetyl CoA and choline at cholinergic synapses.
CC   -!- CATALYTIC ACTIVITY: Acetyl-CoA + choline = CoA + O-acetylcholine.
CC   -!- ALTERNATIVE PRODUCTS: 3 isoforms; M/83 kDa (shown here), S/74 kDa
CC       and R/70 kDa; are produced by alternative splicing.
CC   -!- DISEASE: Defects in CHAT are a cause of familial infantile
CC       myasthenic gravis type 2 (FIMG2) (also known as CMS-EA). FIMG2
CC       patients have myasthenic symptoms since birth or early infancy,
CC       negative tests for anti-AChR antibodies, and abrupt episodic
CC       crises with increased weakness, bulbar paralysis, and apnea
CC       precipitated by undue exertion, fever, or excitement.
CC   -!- SIMILARITY: BELONGS TO THE CARNITINE/CHOLINE ACETYLTRANSFERASE
CC       FAMILY.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; S56138; AAA14245.1; -.
DR   EMBL; AF305907; AAK08953.1; -.
DR   EMBL; AF305906; AAK08950.1; -.
DR   EMBL; AF305894; AAK08950.1; JOINED.
DR   EMBL; AF305895; AAK08950.1; JOINED.
DR   EMBL; AF305896; AAK08950.1; JOINED.
DR   EMBL; AF305897; AAK08950.1; JOINED.
DR   EMBL; AF305898; AAK08950.1; JOINED.
DR   EMBL; AF305899; AAK08950.1; JOINED.
DR   EMBL; AF305900; AAK08950.1; JOINED.
DR   EMBL; AF305901; AAK08950.1; JOINED.
DR   EMBL; AF305902; AAK08950.1; JOINED.
DR   EMBL; AF305903; AAK08950.1; JOINED.
DR   EMBL; AF305904; AAK08950.1; JOINED.
DR   EMBL; AF305905; AAK08950.1; JOINED.
DR   EMBL; AF305908; AAK08954.1; -.
DR   EMBL; AF305906; AAK08951.1; -.
DR   EMBL; AF305894; AAK08951.1; JOINED.
DR   EMBL; AF305895; AAK08951.1; JOINED.
DR   EMBL; AF305896; AAK08951.1; JOINED.
DR   EMBL; AF305897; AAK08951.1; JOINED.
DR   EMBL; AF305898; AAK08951.1; JOINED.
DR   EMBL; AF305899; AAK08951.1; JOINED.
DR   EMBL; AF305900; AAK08951.1; JOINED.
DR   EMBL; AF305901; AAK08951.1; JOINED.
DR   EMBL; AF305902; AAK08951.1; JOINED.
DR   EMBL; AF305903; AAK08951.1; JOINED.
DR   EMBL; AF305904; AAK08951.1; JOINED.
DR   EMBL; AF305905; AAK08951.1; JOINED.
DR   EMBL; AF305909; AAK08955.1; -.
DR   EMBL; AF305906; AAK08952.1; -.
DR   EMBL; AF305894; AAK08952.1; JOINED.
DR   EMBL; AF305895; AAK08952.1; JOINED.
DR   EMBL; AF305896; AAK08952.1; JOINED.
DR   EMBL; AF305897; AAK08952.1; JOINED.
DR   EMBL; AF305898; AAK08952.1; JOINED.
DR   EMBL; AF305899; AAK08952.1; JOINED.
DR   EMBL; AF305900; AAK08952.1; JOINED.
DR   EMBL; AF305901; AAK08952.1; JOINED.
DR   EMBL; AF305902; AAK08952.1; JOINED.
DR   EMBL; AF305903; AAK08952.1; JOINED.
DR   EMBL; AF305904; AAK08952.1; JOINED.
DR   EMBL; AF305905; AAK08952.1; JOINED.
DR   EMBL; S45018; AAB23557.2; -.
DR   EMBL; X56585; CAA39923.1; -.
DR   EMBL; X56879; CAA40201.1; -.
DR   PIR; S14483; S14483.
DR   PIR; S24416; S24416.
DR   MIM; 118490; -.
DR   MIM; 254210; -.
DR   InterPro; IPR000542; Carn_acyltransf.
DR   Pfam; PF00755; Carn_acyltransf; 1.
DR   PROSITE; PS00439; ACYLTRANSF_C_1; 1.
DR   PROSITE; PS00440; ACYLTRANSF_C_2; 1.
KW   Transferase; Acyltransferase; Neurotransmitter biosynthesis;
KW   Alternative splicing; Disease mutation; Polymorphism.
FT   ACT_SITE     442     442       POTENTIAL.
FT   VARIANT      120     120       A -> T.
FT                                  /FTId=VAR_011675.
FT   VARIANT      210     210       L -> P (IN FIMG2; IMPAIRED ACTIVITY).
FT                                  /FTId=VAR_011666.
FT   VARIANT      211     211       P -> A (IN FIMG2; IMPAIRED ACTIVITY).
FT                                  /FTId=VAR_011667.
FT   VARIANT      305     305       I -> T (IN FIMG2; IMPAIRED ACTIVITY).
FT                                  /FTId=VAR_011668.
FT   VARIANT      392     392       A -> G.
FT                                  /FTId=VAR_011676.
FT   VARIANT      420     420       R -> C (IN FIMG2; IMPAIRED ACTIVITY).
FT                                  /FTId=VAR_011669.
FT   VARIANT      441     441       E -> K (IN FIMG2; COMPLETELY LACK
FT                                  ACTIVITY).
FT                                  /FTId=VAR_011670.
FT   VARIANT      482     482       R -> G (IN FIMG2; IMPAIRED ACTIVITY).
FT                                  /FTId=VAR_011671.
FT   VARIANT      498     498       S -> L (IN FIMG2; IMPAIRED ACTIVITY).
FT                                  /FTId=VAR_011672.
FT   VARIANT      506     506       V -> L (IN FIMG2; IMPAIRED ACTIVITY).
FT                                  /FTId=VAR_011673.
FT   VARIANT      560     560       R -> H (IN FIMG2; IMPAIRED ACTIVITY).
FT                                  /FTId=VAR_011674.
FT   VARSPLIC       1      95       MGLRTAKKRGLGGGGKWKREEGGGTRGRREVRPACFLQSGG
FT                                  RGDPGDVGGPAGNPGCSPHPRAATRPPPLPAHTPAHTPEWC
FT                                  GAASAEAAEPRRA -> MWPECRDEALSTV (IN
FT                                  ISOFORM S).
FT   VARSPLIC       1     118       MISSING (IN ISOFORM R).
FT   CONFLICT     151     151       R -> Q (IN REF. 4).
FT   CONFLICT     261     262       GQ -> PE (IN REF. 1).
FT   CONFLICT     396     396       V -> L (IN REF. 3).
FT   CONFLICT     434     434       G -> A (IN REF. 1).
FT   CONFLICT     529     529       C -> S (IN REF. 3).
FT   CONFLICT     567     567       V -> L (IN REF. 3).
FT   CONFLICT     629     630       EL -> DV (IN REF. 3).
FT   CONFLICT     664     664       T -> M (IN REF. 3).
SQ   SEQUENCE   748 AA;  82567 MW;  0D537659F876C497 CRC64;

Query Match              100.0%;  Score 26;  DB 1;  Length 748;
Best Local Similarity    100.0%;  Pred. No. 85;
```

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  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
           ||||||
Db     596 KLLLLK 601


RESULT   8
POLN_SFV
ID   POLN_SFV       STANDARD;      PRT;  2431 AA.
AC   P08411;
DT   01-AUG-1988 (Rel. 08, Created)
DT   01-AUG-1988 (Rel. 08, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Nonstructural polyprotein [Contains: Nonstructural proteins NSP1 TO
DE   NSP4].
OS   Semliki forest virus (SFV).
OC   Viruses; ssRNA positive-strand viruses, no DNA stage; Togaviridae;
OC   Alphavirus.
OX   NCBI_TaxID=11033;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=86286581; PubMed=3488539;
RA   Takkinen K.;
RT   "Complete nucleotide sequence of the nonstructural protein genes of
RT   Semliki Forest virus.";
RL   Nucleic Acids Res. 14:5667-5682(1986).
CC   -!- FUNCTION: NSP2 MAY BE INVOLVED IN RNA BINDING DURING REPLICATION.
CC   -!- PTM: SPECIFIC ENZYMATIC CLEAVAGES IN VIVO YIELD MATURE PROTEINS.
CC   ----------------------------------------------------------------------
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CC   ----------------------------------------------------------------------
DR   EMBL; X04129; CAA27741.1; -.
DR   PIR; A23592; MNWVSF.
DR   MEROPS; C09.001; -.
DR   InterPro; IPR002589; Alpp.
DR   InterPro; IPR002620; Peptidase_C9.
DR   InterPro; IPR001788; RNA_dep_RNApol2.
DR   InterPro; IPR000606; Viral_helicase1.
DR   Pfam; PF01661; Alpp; 1.
DR   Pfam; PF01707; Peptidase_C9; 1.
DR   Pfam; PF00978; RNA_dep_RNApol2; 1.
DR   Pfam; PF01443; Viral_helicase1; 1.
DR   SMART; SM00506; Alpp; 1.
KW   Polyprotein; Nonstructural protein; RNA-binding; Helicase.
FT   CHAIN         1    537       NONSTRUCTURAL PROTEIN NSP1.
FT   CHAIN       538   1335       NONSTRUCTURAL PROTEIN NSP2.
FT   CHAIN      1336   1817       NONSTRUCTURAL PROTEIN NSP3.
FT   CHAIN      1818   2431       NONSTRUCTURAL PROTEIN NSP4.
SQ   SEQUENCE   2431 AA;  269286 MW;  1F9EBA1022E3EC5F CRC64;


  Query Match             100.0%;  Score 26;  DB 1;  Length 2431;
  Best Local Similarity   100.0%;  Pred. No. 2.7e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
           ||||||
Db    1863 KLLLLK 1868


RESULT   9
Y385_BUCAI
ID   Y385_BUCAI     STANDARD;      PRT;    80 AA.
AC   P57465;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Hypothetical protein BU385.
GN   BU385.
OS   Buchnera aphidicola (subsp. Acyrthosiphon pisum) (Acyrthosiphon pisum
OS   symbiotic bacterium).
OC   Bacteria; Proteobacteria; gamma subdivision; Buchnera.
OX   NCBI_TaxID=118099;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=TOKYO 1998;
RX   MEDLINE=20445173; PubMed=10993077;
RA   Shigenobu S., Watanabe H., Hattori M., Sakaki Y., Ishikawa H.;
RT   "Genome sequence of the endocellular bacterial symbiont of aphids
RT   Buchnera sp. APS.";
RL   Nature 407:81-86(2000).
CC   -!- SIMILARITY: BELONGS TO THE BOLA / YRBA FAMILY. STRONG, TO E.COLI
CC       YRBA.
CC   ----------------------------------------------------------------------
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CC   ----------------------------------------------------------------------
DR   EMBL; AP001119; BAB13088.1; -.
DR   InterPro; IPR002634; BolA.
DR   Pfam; PF01722; BolA; 1.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   80 AA;  9299 MW;  4AFACA590A038131 CRC64;


  Query Match             92.3%;  Score 24;  DB 1;  Length 80;
  Best Local Similarity   83.3%;  Pred. No. 29;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
           ||||:|
Db       7 KLLLIK 12


RESULT  10
YSC1_THEFL
ID   YSC1_THEFL     STANDARD;      PRT;    93 AA.
AC   P25124;
DT   01-MAY-1992 (Rel. 22, Created)
DT   01-MAY-1992 (Rel. 22, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Hypothetical protein in SCSB 5'region (ORFA) (Fragment).
OS   Thermus aquaticus (subsp. flavus).
OC   Bacteria; Thermus/Deinococcus group; Thermus group; Thermus.
OX   NCBI_TaxID=274;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 33923 / AT-62;
RX   MEDLINE=91238680; PubMed=2034208;
RA   Nishiyama M., Horinouchi S., Beppu T.;
RT   "Characterization of an operon encoding succinyl-CoA synthetase and
RT   malate dehydrogenase from Thermus flavus AT-62 and its expression in
RT   Escherichia coli.";
RL   Mol. Gen. Genet. 226:1-9(1991).
CC   -!- SIMILARITY: BELONGS TO THE YCF81 FAMILY.
CC   ----------------------------------------------------------------------
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CC   ----------------------------------------------------------------------
DR   EMBL; X54073; CAA38004.1; -.
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DR   PIR; S15948; S15948.
DR   InterPro; IPR002792; DUF90.
DR   Pfam; PF01938; TRAM; 1.
KW   Hypothetical protein.
FT   NON_TER       1      1
SQ   SEQUENCE   93 AA;  10011 MW;  CC3B333389B9CCCF CRC64;
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  Query Match             92.3%;  Score 24;  DB 1;  Length 93;
  Best Local Similarity   83.3%;  Pred. No. 34;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
             |||:||
Db      32 KLLILK 37
```

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RESULT  11
Y245_MYCGE
ID   Y245_MYCGE     STANDARD;      PRT;   165 AA.
AC   P47487;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Hypothetical protein MG245.
GN   MG245.
OS   Mycoplasma genitalium.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group; Mollicutes;
OC   Mycoplasmataceae; Mycoplasma.
OX   NCBI_TaxID=2097;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 33530 / G-37;
RX   MEDLINE=96026346; PubMed=7569993;
RA   Fraser C.M., Gocayne J.D., White O., Adams M.D., Clayton R.A.,
RA   Fleischmann R.D., Bult C.J., Kerlavage A.R., Sutton G., Kelley J.M.,
RA   Fritchman J.L., Weidman J.F., Small K.V., Sandusky M., Fuhrmann J.L.,
RA   Nguyen D.T., Utterback T.R., Saudek D.M., Phillips C.A., Merrick J.M.,
RA   Tomb J.-F., Dougherty B.A., Bott K.F., Hu P.-C., Lucier T.S.,
RA   Peterson S.N., Smith H.O., Hutchison C.A. III, Venter J.C.;
RT   "The minimal gene complement of Mycoplasma genitalium.";
RL   Science 270:397-403(1995).
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U39703; AAC71465.1; -.
DR   TIGR; MG245; -.
DR   InterPro; IPR002698; 5-FTHF_cyc-lig.
DR   Pfam; PF01812; 5-FTHF_cyc-lig; 1.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   165 AA;  19355 MW;  AEC4ADEEE55A7020 CRC64;
```

```
  Query Match             92.3%;  Score 24;  DB 1;  Length 165;
  Best Local Similarity   83.3%;  Pred. No. 59;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
             ||:|||
Db       9 KLMLLK 14
```

```
RESULT  12
UL24_HSV7J
ID   UL24_HSV7J     STANDARD;      PRT;   239 AA.
AC   P52386;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Protein U49.
GN   U49.
OS   Human herpesvirus (type 7 / strain JI) (HHV7).
OC   Viruses; dsDNA viruses, no RNA stage; Herpesviridae;
OC   Alphaherpesvirinae; Simplexvirus.
OX   NCBI_TaxID=57278;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Nicholas J.;
RL   Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- SIMILARITY: BELONGS TO FAMILY THAT GROUPS TOGETHER HSV-1 UL24,
CC       EHV-1 37, EBV BXRF1, HCMV UL76, ILTV ORF3, AND VZV 35.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U43400; AAC54711.1; -.
DR   InterPro; IPR002580; Herpes_UL24.
DR   Pfam; PF01646; Herpes_UL24; 1.
SQ   SEQUENCE   239 AA;  28568 MW;  F4EBC038679BE6B0 CRC64;
```

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  Query Match             92.3%;  Score 24;  DB 1;  Length 239;
  Best Local Similarity   83.3%;  Pred. No. 85;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
             |:||||
Db      24 KLLLLK 29
```

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RESULT  13
HPA1_HELPY
ID   HPA1_HELPY     STANDARD;      PRT;   260 AA.
AC   Q48264;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   Neuraminyllactose-binding hemagglutinin precursor (N-
DE   acetylneuraminyllactose-binding fibrillar hemagglutinin receptor-
DE   binding subunit) (NLBH) (Flagellar sheath adhesin).
GN   HPAA.
OS   Helicobacter pylori (Campylobacter pylori).
OC   Bacteria; Proteobacteria; epsilon subdivision; Helicobacter group;
OC   Helicobacter.
OX   NCBI_TaxID=210;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=8826;
RX   MEDLINE=93139035; PubMed=7678592;
RA   Evans D.G., Karjalainen T.K., Evans D.J., Graham D.Y., Lee C.-H.;
RT   "Cloning, nucleotide sequence, and expression of a gene encoding an
RT   adhesin subunit protein of Helicobacter pylori.";
RL   J. Bacteriol. 175:674-683(1993).
CC   -!- SUBCELLULAR LOCATION: Attached to the outer membrane by a lipid
CC       anchor (Probable).
CC   -!- PTM: THE N-TERMINUS IS BLOCKED.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
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DR   EMBL; X61574; CAA43773.1; -.
DR   PROSITE; PS00013; PROKAR_LIPOPROTEIN; 1.
KW   Flagella; Outer membrane; Lipoprotein; Signal.
FT   SIGNAL        1     27       BY SIMILARITY.
FT   CHAIN        28    260       NEURAMINYLLACTOSE-BINDING HEMAGGLUTININ.
FT   LIPID        28     28       N-ACYL DIGLYCERIDE (PROBABLE).
FT   DOMAIN      134    139       N-ACETYL-NEURAMINYL-ALPHA(2,3)-LACTOSE
FT                                BINDING MOTIF (POTENTIAL).
SQ   SEQUENCE   260 AA;  29166 MW;  22489598065E7B14 CRC64;


  Query Match             92.3%;  Score 24;  DB 1;  Length 260;
  Best Local Similarity   83.3%;  Pred. No. 93;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          |:||||
Db     57 KILLLK 62


RESULT  14
VC17_VACCC
ID   VC17_VACCC     STANDARD;      PRT;   386 AA.
AC   P21101;
DT   01-FEB-1991 (Rel. 17, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Protein C17/B23.
GN   B23R AND C17L.
OS   Vaccinia virus (strain Copenhagen).
OC   Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
OC   Orthopoxvirus.
OX   NCBI_TaxID=10249;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91021027; PubMed=2219722;
RA   Goebel S.J., Johnson G.P., Perkus M.E., Davis S.W., Winslow J.P.,
RA   Paoletti E.;
RT   "The complete DNA sequence of vaccinia virus.";
RL   Virology 179:247-266(1990).
RN   [2]
RP   COMPLETE GENOME.
RA   Goebel S.J., Johnson G.P., Perkus M.E., Davis S.W., Winslow J.P.,
RA   Paoletti E.;
RT   "Appendix to 'The complete DNA sequence of vaccinia virus'.";
RL   Virology 179:517-563(1990).
CC   -!- SIMILARITY: CONTAINS 6 ANK REPEATS.
CC   ----------------------------------------------------------------------
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CC   ----------------------------------------------------------------------
DR   EMBL; M35027; AAA48222.1; -.
DR   EMBL; M35027; AAA47979.1; -.
DR   PIR; D42528; D42528.
DR   PIR; F42502; F42502.
DR   InterPro; IPR002110; ANK.
DR   Pfam; PF00023; ank; 3.
DR   SMART; SM00248; ANK; 1.
DR   PROSITE; PS50088; ANK_REPEAT; FALSE_NEG.
DR   PROSITE; PS50297; ANK_REP_REGION; 1.
KW   ANK repeat; Repeat.
FT   REPEAT       59     91       ANK 1.
FT   REPEAT       95    126       ANK 2.
FT   REPEAT      210    245       ANK 3.
FT   REPEAT      249    280       ANK 4.
FT   REPEAT      292    321       ANK 5.
FT   REPEAT      349    381       ANK 6.
SQ   SEQUENCE   386 AA;  44941 MW;  D553A134C9317A42 CRC64;


  Query Match             92.3%;  Score 24;  DB 1;  Length 386;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+02;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||:|
Db    269 KLLLIK 274


RESULT  15
DNM2_HUMAN
ID   DNM2_HUMAN     STANDARD;      PRT;   391 AA.
AC   O14717;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   DNA (cytosine-5)-methyltransferase-like protein 2 (DNA
DE   methyltransferase homolog HsaIIP) (DNA MTase homolog HsaIIP)
DE   (M.HsaIIP) (PuMet).
GN   DNMT2.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=98087580; PubMed=9425235;
RA   Yoder J.A., Bestor T.H.;
RT   "A candidate mammalian DNA methyltransferase related to pmt1p of
RT   fission yeast.";
RL   Hum. Mol. Genet. 7:279-284(1998).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=98258972; PubMed=9599025;
RA   Van den Wyngaert I., Sprengel J., Kass S.U., Luyten W.H.;
RT   "Cloning and analysis of a novel human putative DNA
RT   methyltransferase.";
RL   FEBS Lett. 426:283-289(1998).
RN   [3]
RP   SEQUENCE FROM N.A.
RA   Bird C.;
RL   Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   X-RAY CRYSTALLOGRAPHY (1.8 ANGSTROMS).
RX   MEDLINE=20580737; PubMed=11139614;
RA   Dong A., Yoder J.A., Zhang X., Zhou L., Bestor T.H., Cheng X.;
RT   "Structure of human DNMT2, an enigmatic DNA methyltransferase homolog
RT   that displays denaturant-resistant binding to DNA.";
RL   Nucleic Acids Res. 29:439-448(2001).
CC   -!- FUNCTION: Seems not be active as a DNA methyltransferase. Its
CC       strong binding to DNA suggests that it may mark specific sequences
CC       in the genome by binding to DNA through the specific target-
CC       recognizing motif.
CC   -!- TISSUE SPECIFICITY: Ubiquitous.
CC   -!- SIMILARITY: BELONGS TO THE C5-METHYLTRANSFERASE FAMILY.
CC   ----------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; AF012128; AAC51939.1; -.
DR   EMBL; AJ223333; CAA11272.1; -.
DR   EMBL; AL133415; CAB87964.1; -.
DR   PDB; 1G55; 17-JAN-01.
DR   REBASE; 3241; M.HsaIIP.
DR   MIM; 602478; -.
DR   InterPro; IPR001525; C5_DNA_meth.
```

```
DR   Pfam; PF00145; DNA_methylase; 2.
DR   PRINTS; PR00105; C5METTRFRASE.
DR   PROSITE; PS00094; C5_MTASE_1; FALSE_NEG.
DR   PROSITE; PS00095; C5_MTASE_2; 1.
KW   DNA-binding; 3D-structure.
FT   ACT_SITE     79     79       BY SIMILARITY.
SQ   SEQUENCE   391 AA;  44596 MW;  BCA549E4EB2E6950 CRC64;


  Query Match             92.3%;  Score 24;  DB 1;  Length 391;
  Best Local Similarity   83.3%;  Pred. No. 1.4e+02;
  Matches    5;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
             |||:||
Db     334 KLLILK 339


Search completed: June 17, 2002, 12:44:46
Job time: 301 sec
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GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:44:18 ; Search time 73.61 Seconds
(without alignments)
14.101 Million cell updates/sec

Title: US-09-367-714A-28
Perfect score: 26
Sequence: 1 KLLLLK 6

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 562222 seqs, 172994929 residues

Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_19:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 26 | 100.0 | 58 | 5 | Q95T00 | Q95t00 drosophila |
| 2 | 26 | 100.0 | 110 | 16 | Q9JTL6 | Q9jtl6 neisseria m |
| 3 | 26 | 100.0 | 126 | 17 | Q9YC24 | Q9yc24 aeropyrum p |
| 4 | 26 | 100.0 | 146 | 3 | Q9P7A2 | Q9p7a2 schizosacch |
| 5 | 26 | 100.0 | 205 | 16 | Q9AAV9 | Q9aav9 caulobacter |
| 6 | 26 | 100.0 | 265 | 8 | Q9MG96 | Q9mg96 chrysodidym |
| 7 | 26 | 100.0 | 305 | 16 | O50934 | O50934 borrelia bu |
| 8 | 26 | 100.0 | 321 | 3 | Q06146 | Q06146 saccharomyc |
| 9 | 26 | 100.0 | 482 | 8 | Q9G8N5 | Q9g8n5 naegleria g |
| 10 | 26 | 100.0 | 542 | 16 | Q9JZ89 | Q9jz89 neisseria m |
| 11 | 26 | 100.0 | 542 | 16 | Q9JUB3 | Q9jub3 neisseria m |
| 12 | 26 | 100.0 | 544 | 3 | Q9HGZ7 | Q9hgz7 schizosacch |
| 13 | 26 | 100.0 | 547 | 2 | Q93N56 | Q93n56 coxiella bu |
| 14 | 26 | 100.0 | 560 | 5 | Q9TWB0 | Q9twb0 plasmodium |
| 15 | 26 | 100.0 | 576 | 5 | Q95TP6 | Q95tp6 drosophila |
| 16 | 26 | 100.0 | 608 | 5 | O77331 | O77331 plasmodium |
| 17 | 26 | 100.0 | 614 | 12 | O41268 | O41268 semliki for |
| 18 | 26 | 100.0 | 684 | 12 | Q91MW5 | Q91mw5 lumpy skin |
| 19 | 26 | 100.0 | 841 | 5 | Q9U6X3 | Q9u6x3 drosophila |
| 20 | 26 | 100.0 | 1049 | 12 | Q83611 | Q83611 ectromelia |
| 21 | 26 | 100.0 | 1096 | 5 | Q9NGX1 | Q9ngx1 entamoeba h |
| 22 | 26 | 100.0 | 1173 | 11 | Q99MZ9 | Q99mz9 mus musculu |
| 23 | 26 | 100.0 | 1441 | 10 | O24367 | O24367 spirodela p |
| 24 | 26 | 100.0 | 1855 | 5 | Q9TX75 | Q9tx75 plasmodium |
| 25 | 26 | 100.0 | 1855 | 5 | Q9BHN0 | Q9bhn0 plasmodium |
| 26 | 26 | 100.0 | 1912 | 5 | Q9U0H1 | Q9u0h1 plasmodium |
| 27 | 26 | 100.0 | 2432 | 12 | Q9QBM1 | Q9qbm1 semliki for |
| 28 | 24 | 92.3 | 41 | 8 | O20189 | O20189 chlorella v |
| 29 | 24 | 92.3 | 80 | 10 | Q9LGL0 | Q9lgl0 oryza sativ |
| 30 | 24 | 92.3 | 90 | 8 | Q35715 | Q35715 romanomermi |
| 31 | 24 | 92.3 | 95 | 16 | Q930X5 | Q930x5 rhizobium m |
| 32 | 24 | 92.3 | 128 | 10 | Q9XEK3 | Q9xek3 dendrobium |
| 33 | 24 | 92.3 | 146 | 16 | Q9JR77 | Q9jr77 neisseria m |
| 34 | 24 | 92.3 | 167 | 2 | Q9RNC2 | Q9rnc2 helicobacte |
| 35 | 24 | 92.3 | 187 | 4 | Q96SL4 | Q96sl4 homo sapien |
| 36 | 24 | 92.3 | 201 | 16 | Q92AN1 | Q92an1 listeria in |
| 37 | 24 | 92.3 | 215 | 16 | O84255 | O84255 chlamydia t |
| 38 | 24 | 92.3 | 215 | 16 | Q9PKE1 | Q9pke1 chlamydia m |
| 39 | 24 | 92.3 | 217 | 2 | Q9RNC4 | Q9rnc4 helicobacte |
| 40 | 24 | 92.3 | 217 | 2 | Q9RNC3 | Q9rnc3 helicobacte |
| 41 | 24 | 92.3 | 217 | 16 | O25359 | O25359 helicobacte |
| 42 | 24 | 92.3 | 217 | 16 | Q9ZLJ3 | Q9zlj3 helicobacte |
| 43 | 24 | 92.3 | 233 | 8 | Q9MTD5 | Q9mtd5 toxoplasma |
| 44 | 24 | 92.3 | 236 | 16 | Q98EW8 | Q98ew8 rhizobium l |
| 45 | 24 | 92.3 | 239 | 16 | Q9PMD0 | Q9pmd0 campylobact |

ALIGNMENTS

RESULT 1
Q95T00
ID Q95T00 PRELIMINARY; PRT; 58 AA.
AC Q95T00;
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE LD32080P.
GN CHARYBDE.
OS Drosophila melanogaster (Fruit fly).
OC Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
OC Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC Ephydroidea; Drosophilidae; Drosophila.
OX NCBI_TaxID=7227;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Y, CN BW SP;
RA Stapleton M., Brokstein P., Hong L., Agbayani A., Carlson J.,
RA Champe M., Chavez C., Dorsett V., Farfan D., Frise E., George R.,
RA Gonzalez M., Guarin H., Li P., Liao G., Miranda A., Mungall C.J.,
RA Nunoo J., Pacleb J., Paragas V., Park S., Phouanenavong S., Wan K.,
RA Yu C., Lewis S.E., Rubin G.M., Celniker S.;
RL Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
DR EMBL; AY060401; AAL25440.1; -.
SQ SEQUENCE 58 AA; 7029 MW; 4CE54127CB70AA98 CRC64;

Query Match 100.0%; Score 26; DB 5; Length 58;
Best Local Similarity 100.0%; Pred. No. 34;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 KLLLLK 6
          ||||||
Db     53 KLLLLK 58
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RESULT 2
Q9JTL6
ID Q9JTL6 PRELIMINARY; PRT; 110 AA.

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AC   Q9JTL6;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   PUTATIVE PROLINE-RICH REPEAT PROTEIN.
GN   NMA1723.
OS   Neisseria meningitidis (serogroup A).
OC   Bacteria; Proteobacteria; beta subdivision; Neisseriaceae; Neisseria.
OX   NCBI_TaxID=65699;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Z2491 / SEROGROUP A / SEROTYPE 4A;
RX   MEDLINE=20222556; PubMed=10761919;
RA   Parkhill J., Achtman M., James K.D., Bentley S.D., Churcher C.,
RA   Klee S.R., Morelli G., Basham D., Brown D., Chillingworth T.,
RA   Davies R.M., Davis P., Devlin K., Feltwell T., Hamlin N., Holroyd S.,
RA   Jagels K., Leather S., Moule S., Mungall K., Quail M.A.,
RA   Rajandream M.A., Rutherford K.M., Simmonds M., Skelton J.,
RA   Whitehead S., Spratt B.G., Barrell B.G.;
RT   "Complete DNA sequence of a serogroup A strain of Neisseria
RT   meningitidis Z2491.";
RL   Nature 404:502-506(2000).
DR   EMBL; AL162756; CAB84951.1; -.
KW   Complete proteome.
SQ   SEQUENCE   110 AA;  12714 MW;  F8ED83151FC34CB8 CRC64;

  Query Match           100.0%;  Score 26;  DB 16;  Length 110;
  Best Local Similarity  100.0%;  Pred. No. 61;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db     50 KLLLLK 55


RESULT   3
Q9YC24
ID   Q9YC24      PRELIMINARY;      PRT;   126 AA.
AC   Q9YC24;
DT   01-NOV-1999 (TrEMBLrel. 12, Created)
DT   01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT   01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
DE   HYPOTHETICAL 14.2 KDA PROTEIN APE1427.
GN   APE1427.
OS   Aeropyrum pernix.
OC   Archaea; Crenarchaeota; Desulfurococcales; Desulfurococcaceae;
OC   Aeropyrum.
OX   NCBI_TaxID=56636;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=K1;
RX   MEDLINE=99310339; PubMed=10382966;
RA   Kawarabayasi Y., Hino Y., Horikawa H., Yamazaki S., Haikawa Y.,
RA   Jin-no K., Takahashi M., Sekine M., Baba S.-I., Ankai A., Kosugi H.,
RA   Hosoyama A., Fukui S., Nagai Y., Nishijima K., Nakazawa H.,
RA   Takamiya M., Masuda S., Funahashi T., Tanaka T., Kudoh Y.,
RA   Yamazaki J., Kushida N., Oguchi A., Aoki K.-I., Kubota K.,
RA   Nakamura Y., Nomura N., Sako Y., Kikuchi H.;
RT   "Complete genome sequence of an aerobic hyper-thermophilic
RT   crenarchaeon, Aeropyrum pernix K1.";
RL   DNA Res. 6:83-101(1999).
DR   EMBL; AP000061; BAA80424.1; -.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   126 AA;  14192 MW;  B766FEF18B135029 CRC64;

  Query Match           100.0%;  Score 26;  DB 17;  Length 126;
  Best Local Similarity  100.0%;  Pred. No. 68;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db     62 KLLLLK 67


RESULT   4
Q9P7A2
ID   Q9P7A2      PRELIMINARY;      PRT;   146 AA.
AC   Q9P7A2;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
DE   CYTOPLASMIC DYNEIN INTERMEDIATE CHAIN (FRAGMENT).
GN   SPBP35G2.01C.
OS   Schizosaccharomyces pombe (Fission yeast).
OC   Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
OC   Schizosaccharomycetales; Schizosaccharomycetaceae;
OC   Schizosaccharomyces.
OX   NCBI_TaxID=4896;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=972H-;
RA   Seeger K., Harris D., Wood V., Rajandream M.A., Barrell B.G.;
RL   Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=972H-;
RA   McCombie W.R.;
RL   Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AL163702; CAB87363.1; -.
FT   NON_TER     146    146
SQ   SEQUENCE   146 AA;  16333 MW;  5D283F44B9426B13 CRC64;

  Query Match           100.0%;  Score 26;  DB 3;  Length 146;
  Best Local Similarity  100.0%;  Pred. No. 78;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db     15 KLLLLK 20


RESULT   5
Q9AAV9
ID   Q9AAV9      PRELIMINARY;      PRT;   205 AA.
AC   Q9AAV9;
DT   01-JUN-2001 (TrEMBLrel. 17, Created)
DT   01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   PEPTIDYL-TRNA HYDROLASE.
GN   CC0484.
OS   Caulobacter crescentus.
OC   Bacteria; Proteobacteria; alpha subdivision; Caulobacter group;
OC   Caulobacter.
OX   NCBI_TaxID=69394;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 19089 / CB15;
RX   MEDLINE=21173698; PubMed=11259647;
RA   Nierman W.C., Feldblyum T.V., Laub M.T., Paulsen I.T., Nelson K.E.,
RA   Eisen J., Heidelberg J.F., Alley M.R.K., Ohta N., Maddock J.R.,
RA   Potocka I., Nelson W.C., Newton A., Stephens C., Phadke N.D., Ely B.,
RA   DeBoy R.T., Dodson R.J., Durkin A.S., Gwinn M.L., Haft D.H.,
RA   Kolonay J.F., Smit J., Craven M.B., Khouri H., Shetty J., Berry K.,
RA   Utterback T., Tran K., Wolf A., Vamathevan J., Ermolaeva M., White O.,
RA   Salzberg S.L., Venter J.C., Shapiro L., Fraser C.M.;
RT   "Complete genome sequence of Caulobacter crescentus.";
RL   Proc. Natl. Acad. Sci. U.S.A. 98:4136-4141(2001).
DR   EMBL; AE005721; AAK22471.1; -.
DR   HSSP; P23932; 2PTH.
DR   TIGR; CC0484; -.
DR   InterPro; IPR001328; Pept_tRNA_hydro.
DR   Pfam; PF01195; Pept_tRNA_hydro; 1.
DR   ProDom; PD005324; Pept_tRNA_hydro; 1.
```

```
KW   Hydrolase; Complete proteome.
SQ   SEQUENCE   205 AA;  22472 MW;  F64F92A527D6B8F6 CRC64;


  Query Match           100.0%;  Score 26;  DB 16;  Length 205;
  Best Local Similarity  100.0%;  Pred. No. 1.1e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db     59 KLLLLK 64


RESULT   6
Q9MG96
ID   Q9MG96      PRELIMINARY;      PRT;   265 AA.
AC   Q9MG96;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   RIBOSOMAL PROTEIN S3.
GN   RPS3.
OS   Chrysodidymus synuroideus.
OG   Mitochondrion.
OC   Eukaryota; stramenopiles; Chrysophyceae; Synurales; Chrysodidymus.
OX   NCBI_TaxID=47573;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20330374; PubMed=10871400;
RA   Chesnick J.M., Goff M., Graham J., Ocampo C., Lang B.F., Seif E.,
RA   Burger G.;
RT   "The mitochondrial genome of the stramenopile alga Chrysodidymus
RT   synuroideus. Complete sequence, gene content and genome
RT   organization.";
RL   Nucleic Acids Res. 28:2512-2518(2000).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Burger G.;
RL   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF222718; AAF36953.1; -.
DR   InterPro; IPR001351; Ribosomal_S3.
DR   Pfam; PF00189; Ribosomal_S3_C; 1.
KW   Mitochondrion.
SQ   SEQUENCE   265 AA;  31348 MW;  D985AB230A78220E CRC64;


  Query Match           100.0%;  Score 26;  DB 8;  Length 265;
  Best Local Similarity  100.0%;  Pred. No. 1.3e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db     99 KLLLLK 104


RESULT   7
O50934
ID   O50934      PRELIMINARY;      PRT;   305 AA.
AC   O50934;
DT   01-JUN-1998 (TrEMBLrel. 06, Created)
DT   01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
DT   01-NOV-1998 (TrEMBLrel. 08, Last annotation update)
DE   CONSERVED HYPOTHETICAL PROTEIN.
GN   BBA41.
OS   Borrelia burgdorferi (Lyme disease spirochete).
OG   Plasmid lp54.
OC   Bacteria; Spirochaetales; Spirochaetaceae; Borrelia.
OX   NCBI_TaxID=139;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 35210 / B31;
RX   MEDLINE=98065943; PubMed=9403685;
RA   Fraser C.M., Casjens S., Huang W.M., Sutton G.G., Clayton R.A.,
RA   Lathigra R., White O., Ketchum K.A., Dodson R., Hickey E.K., Gwinn M.,
RA   Dougherty B., Tomb J.-F., Fleischmann R.D., Richardson D.,
RA   Peterson J., Kerlavage A.R., Quackenbush J., Salzberg S., Hanson M.,
RA   van Vugt R., Palmer N., Adams M.D., Gocayne J.D., Weidman J.,
RA   Utterback T., Watthey L., McDonald L., Artiach P., Bowman C.,
RA   Garland S., Fujii C., Cotton M.D., Horst K., Roberts K., Hatch B.,
RA   Smith H.O., Venter J.C.;
RT   "Genomic sequence of a Lyme disease spirochaete, Borrelia
RT   burgdorferi.";
RL   Nature 390:580-586(1997).
DR   EMBL; AE000790; AAC66251.1; -.
DR   TIGR; BBA41; -.
KW   Plasmid; Complete proteome.
SQ   SEQUENCE   305 AA;  34953 MW;  8A57A4FDF9972F9F CRC64;


  Query Match           100.0%;  Score 26;  DB 16;  Length 305;
  Best Local Similarity  100.0%;  Pred. No. 1.5e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db    257 KLLLLK 262


RESULT   8
Q06146
ID   Q06146      PRELIMINARY;      PRT;   321 AA.
AC   Q06146;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   CHROMOSOME XII COSMID 8479.
GN   YLR257W OR L8479.9.
OS   Saccharomyces cerevisiae (Baker's yeast).
OC   Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
OC   Saccharomycetales; Saccharomycetaceae; Saccharomyces.
OX   NCBI_TaxID=4932;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=S288C (AB972);
RX   MEDLINE=97313267; PubMed=9169871;
RA   Johnston M., Hillier L., Riles L., Albermann K., Andre B., Ansorge W.,
RA   Benes V., Bruckner M., Delius H., Dubois E., Dusterhoft A.,
RA   Entian K.D., Floeth M., Goffeau A., Hebling U., Heumann K.,
RA   Heuss-Neitzel D., Hilbert H., Hilger F., Kleine K., Kotter P.,
RA   Louis E.J., Messenguy F., Mewes H.W., Miosga T., Mostl D.,
RA   Muller-Auer S., Nentwich U., Obermaier B., Piravandi E., Pohl T.M.,
RA   Portetelle D., Purnelle B., Rechmann S., Rieger M., Rinke M., Rose M.,
RA   Scharfe M., Scherens B., Scholler P., Schwager C., Schwarz S.,
RA   Underwood A.P., Urrestarazu L.A., Vandenbol M., Verhasselt P.,
RA   Vierendeels F., Voet M., Volckaert G., Voss H., Wambutt R., Wedler E.,
RA   Wedler H., Zimmermann F.K., Zollner A., Hani J., Hoheisel J.D.;
RT   "The nucleotide sequence of Saccharomyces cerevisiae chromosome XII.";
RL   Nature 387:0-0(0).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=S288C (AB972);
RA   Miller N.;
RL   Submitted (NOV-1994) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=S288C (AB972);
RA   Waterston R.;
RL   Submitted (NOV-1994) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   SEQUENCE FROM N.A.
RC   STRAIN=S288C (AB972);
RA   Cherry J.M.;
RL   Submitted (AUG-1997) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U17244; AAB67379.1; -.
DR   SGD; S0004247; YLR257W.
SQ   SEQUENCE   321 AA;  35998 MW;  E8E1FC17FFB27418 CRC64;
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  Query Match             100.0%;  Score 26;  DB 3;  Length 321;
  Best Local Similarity   100.0%;  Pred. No. 1.6e+02;
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Qy      1 KLLLLK 6
          ||||||
Db    109 KLLLLK 114


RESULT   9
Q9G8N5
ID   Q9G8N5       PRELIMINARY;       PRT;   482 AA.
AC   Q9G8N5;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   RIBOSOMAL PROTEIN S4.
GN   RPS4.
OS   Naegleria gruberi.
OG   Mitochondrion.
OC   Eukaryota; Heterolobosea; Schizopyrenida; Vahlkampfiidae; Naegleria.
OX   NCBI_TaxID=5762;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Burger G., Lang B.F., Nerad T.A., Gray M.W.;
RT   "The mitochondrial genome of the supposedly primitive protist,
RT   Naegleria gruberi.";
RL   Submitted (JUL-2000) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF288092; AAG17819.1; -.
DR   InterPro; IPR002942; S4.
DR   Pfam; PF01479; S4; 1.
DR   SMART; SM00363; S4; 1.
KW   Mitochondrion.
SQ   SEQUENCE   482 AA;  59522 MW;  0A7A5A9E1AB58EAC CRC64;


  Query Match             100.0%;  Score 26;  DB 8;  Length 482;
  Best Local Similarity   100.0%;  Pred. No. 2.3e+02;
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Db     39 KLLLLK 44


RESULT  10
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ID   Q9JZ89       PRELIMINARY;       PRT;   542 AA.
AC   Q9JZ89;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   ABC TRANSPORTER, ATP-BINDING PROTEIN.
GN   NMB1240.
OS   Neisseria meningitidis (serogroup B).
OC   Bacteria; Proteobacteria; beta subdivision; Neisseriaceae; Neisseria.
OX   NCBI_TaxID=491;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=MC58 / SEROGROUP B;
RX   MEDLINE=20175755; PubMed=10710307;
RA   Tettelin H., Saunders N.J., Heidelberg J., Jeffries A.C., Nelson K.E.,
RA   Eisen J.A., Ketchum K.A., Hood D.W., Peden J.F., Dodson R.J.,
RA   Nelson W.C., Gwinn M.L., DeBoy R., Peterson J.D., Hickey E.K.,
RA   Haft D.H., Salzberg S.L., White O., Fleischmann R.D., Dougherty B.A.,
RA   Mason T., Ciecko A., Parksey D.S., Blair E., Cittone H., Clark E.B.,
RA   Cotton M.D., Utterback T.R., Khouri H., Qin H., Vamathevan J.,
RA   Gill J., Scarlato V., Masignani V., Pizza M., Grandi G., Sun L.,
RA   Smith H.O., Fraser C.M., Moxon E.R., Rappuoli R., Venter J.C.;
RT   "Complete genome sequence of Neisseria meningitidis serogroup B strain
RT   MC58.";
RL   Science 287:1809-1815(2000).
DR   EMBL; AE002472; AAF41621.1; -.
DR   TIGR; NMB1240; -.
DR   InterPro; IPR003593; AAA.
DR   InterPro; IPR003439; ABC_transportr.
DR   InterPro; IPR001687; ATP_GTP_A.
DR   Pfam; PF00005; ABC_tran; 2.
DR   SMART; SM00382; AAA; 1.
KW   ATP-binding; Complete proteome.
SQ   SEQUENCE   542 AA;  60778 MW;  1EACB1DC50077CE9 CRC64;


  Query Match             100.0%;  Score 26;  DB 16;  Length 542;
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Qy      1 KLLLLK 6
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Db    462 KLLLLK 467


RESULT  11
Q9JUB3
ID   Q9JUB3       PRELIMINARY;       PRT;   542 AA.
AC   Q9JUB3;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   PUTATIVE ABC-TRANSPORTER ATP-BINDING PROTEIN.
GN   NMA1409.
OS   Neisseria meningitidis (serogroup A).
OC   Bacteria; Proteobacteria; beta subdivision; Neisseriaceae; Neisseria.
OX   NCBI_TaxID=65699;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=Z2491 / SEROGROUP A / SEROTYPE 4A;
RX   MEDLINE=20222556; PubMed=10761919;
RA   Parkhill J., Achtman M., James K.D., Bentley S.D., Churcher C.,
RA   Klee S.R., Morelli G., Basham D., Brown D., Chillingworth T.,
RA   Davies R.M., Davis P., Devlin K., Feltwell T., Hamlin N., Holroyd S.,
RA   Jagels K., Leather S., Moule S., Mungall K., Quail M.A.,
RA   Rajandream M.A., Rutherford K.M., Simmonds M., Skelton J.,
RA   Whitehead S., Spratt B.G., Barrell B.G.;
RT   "Complete DNA sequence of a serogroup A strain of Neisseria
RT   meningitidis Z2491.";
RL   Nature 404:502-506(2000).
DR   EMBL; AL162755; CAB84649.1; -.
DR   InterPro; IPR003593; AAA.
DR   InterPro; IPR003439; ABC_transportr.
DR   InterPro; IPR001687; ATP_GTP_A.
DR   Pfam; PF00005; ABC_tran; 2.
DR   SMART; SM00382; AAA; 1.
KW   ATP-binding; Complete proteome.
SQ   SEQUENCE   542 AA;  60723 MW;  715362DFF1AB7527 CRC64;


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Db    462 KLLLLK 467


RESULT  12
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ID   Q9HGZ7       PRELIMINARY;       PRT;   544 AA.
AC   Q9HGZ7;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   CYTOPLASMIC DYNEIN INTERMEDIATE CHAIN.
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GN   SPBC855.01C.
OS   Schizosaccharomyces pombe (Fission yeast).
OC   Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
OC   Schizosaccharomycetales; Schizosaccharomycetaceae;
OC   Schizosaccharomyces.
OX   NCBI_TaxID=4896;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=972H-;
RA   CSHL Advanced;
RT   "Sequence of a 44.9 kb cosmid insert determined during a two week
RT   course.";
RL   Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=972H-;
RA   McCombie W.R., Lyne M.;
RL   Submitted (JUL-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- SIMILARITY: CONTAINS 5 WD REPEATS (TRP-ASP DOMAINS).
DR   EMBL; AL391016; CAC01482.1; -.
DR   InterPro; IPR001680; WD40.
DR   Pfam; PF00400; WD40; 5.
DR   SMART; SM00320; WD40; 5.
DR   PROSITE; PS00678; WD_REPEATS_1; UNKNOWN_1.
DR   PROSITE; PS50082; WD_REPEATS_2; 1.
DR   PROSITE; PS50294; WD_REPEATS_REGION; 1.
KW   Repeat; WD repeat.
SQ   SEQUENCE   544 AA;  60960 MW;  1057A3C5435F3E6D CRC64;


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ID   Q93N56      PRELIMINARY;      PRT;   547 AA.
AC   Q93N56;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   HYPOTHETICAL 62.8 KDA PROTEIN.
OS   Coxiella burnetii.
OC   Bacteria; Proteobacteria; gamma subdivision; Legionellaceae group;
OC   Coxiella group; Coxiella.
OX   NCBI_TaxID=777;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Hoover T.A., Vodkin M.H., Williams J.C., Culp D.W., Thompson H.A.;
RT   "A chromosomal DNA deletion explains the phenotype of the Coxiella
RT   burnetii phase II variant.";
RL   Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF387640; AAK71266.1; -.
KW   Hypothetical protein.
SQ   SEQUENCE   547 AA;  62831 MW;  FACC03057E3CE23B CRC64;


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Db    366 KLLLLK 371


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ID   Q9TWB0      PRELIMINARY;      PRT;   560 AA.
AC   Q9TWB0;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   DNA POLYMERASE ALPHA, POL ALPHA.
OS   Plasmodium falciparum.
OC   Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.
OX   NCBI_TaxID=5833;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=92107655; PubMed=1762904;
RA   Ridley R.G., White J.H., McAleese S.M., Goman M., Alano P.,
RA   de Vries E., Kilbey B.J.;
RT   "DNA polymerase delta: gene sequences from Plasmodium falciparum
RT   indicate that this enzyme is more highly conserved than DNA polymerase
RT   alpha.";
RL   Nucleic Acids Res. 19:6731-6736(1991).
CC   -!- CATALYTIC ACTIVITY: N DEOXYNUCLEOSIDE TRIPHOSPHATE = N
CC       PYROPHOSPHATE + DNA(N).
CC   -!- MISCELLANEOUS: IN EUKARYOTES THERE ARE FIVE DNA POLYMERASES:
CC       ALPHA, BETA, GAMMA, DELTA, AND EPSILON WHICH ARE RESPONSIBLE FOR
CC       DIFFERENT REACTIONS OF DNA SYNTHESIS (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO DNA POLYMERASE TYPE-B FAMILY.
DR   InterPro; IPR002064; DNA_pol_B.
DR   InterPro; IPR000209; Peptidase_S8.
DR   Pfam; PF00136; DNA_pol_B; 1.
DR   Pfam; PF03104; DNA_pol_B_exo; 1.
DR   PRINTS; PR00106; DNAPOLB.
DR   SMART; SM00486; POLBc; 1.
DR   PROSITE; PS00116; DNA_POLYMERASE_B; 1.
DR   PROSITE; PS00136; SUBTILASE_ASP; UNKNOWN_1.
KW   DNA replication; DNA-binding; DNA-directed DNA polymerase.
SQ   SEQUENCE   560 AA;  65498 MW;  5A182E72761358D9 CRC64;


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Db    482 KLLLLK 487


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DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
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DE   LD32549P.
OS   Drosophila melanogaster (Fruit fly).
OC   Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
OC   Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC   Ephydroidea; Drosophilidae; Drosophila.
OX   NCBI_TaxID=7227;
RN   [1]
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RC   STRAIN=Y, CN BW SP;
RA   Stapleton M., Brokstein P., Hong L., Agbayani A., Carlson J.,
RA   Champe M., Chavez C., Dorsett V., Farfan D., Frise E., George R.,
RA   Gonzalez M., Guarin H., Li P., Liao G., Miranda A., Mungall C.J.,
RA   Nunoo J., Pacleb J., Paragas V., Park S., Phouanenavong S., Wan K.,
RA   Yu C., Lewis S.E., Rubin G.M., Celniker S.;
RL   Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY058628; AAL13857.1; -.
SQ   SEQUENCE   576 AA;  63439 MW;  0588C7F8E07E1249 CRC64;


  Query Match            100.0%;  Score 26;  DB 5;  Length 576;
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Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db     347 KLLLLK 352
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Job time: 295 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:42:03 ; Search time 34.71 Seconds
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Title: US-09-367-714A-28
Perfect score: 26
Sequence: 1 KLLLLK 6

Scoring table: BLOSUM62
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Searched: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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| 2 | 26 | 100.0 | 8 | 3 | US-08-881-971-6 | Sequence 6, Appli |
| 3 | 26 | 100.0 | 13 | 3 | US-08-881-971-5 | Sequence 5, Appli |
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| 6 | 26 | 100.0 | 21 | 1 | US-08-060-833-1 | Sequence 1, Appli |
| 7 | 26 | 100.0 | 21 | 1 | US-08-735-171-1 | Sequence 1, Appli |
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| 9 | 26 | 100.0 | 21 | 2 | US-08-826-261-1 | Sequence 1, Appli |
| 10 | 26 | 100.0 | 21 | 3 | US-08-848-580-1 | Sequence 1, Appli |
| 11 | 26 | 100.0 | 21 | 3 | US-08-881-971-1 | Sequence 1, Appli |
| 12 | 26 | 100.0 | 21 | 5 | PCT-US92-04537-7 | Sequence 7, Appli |
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| 17 | 24 | 92.3 | 401 | 4 | US-09-434-774-10 | Sequence 10, Appl |
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| 28 | 22 | 84.6 | 9 | 2 | US-08-621-803-223 | Sequence 223, App |
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| 36 | 22 | 84.6 | 46 | 4 | US-08-809-646-2 | Sequence 2, Appli |
| 37 | 22 | 84.6 | 46 | 5 | PCT-US95-12433-2 | Sequence 2, Appli |
| 38 | 22 | 84.6 | 100 | 4 | US-09-177-249-246 | Sequence 246, App |
| 39 | 22 | 84.6 | 120 | 4 | US-09-173-151A-12 | Sequence 12, Appl |
| 40 | 22 | 84.6 | 160 | 4 | US-09-173-151A-6 | Sequence 6, Appli |
| 41 | 22 | 84.6 | 309 | 1 | US-08-236-918A-2 | Sequence 2, Appli |
| 42 | 22 | 84.6 | 309 | 4 | US-09-150-864A-2 | Sequence 2, Appli |
| 43 | 22 | 84.6 | 365 | 1 | US-08-674-612-2 | Sequence 2, Appli |
| 44 | 22 | 84.6 | 365 | 2 | US-08-920-296-2 | Sequence 2, Appli |
| 45 | 22 | 84.6 | 365 | 2 | US-08-746-788-2 | Sequence 2, Appli |

ALIGNMENTS

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RESULT   1
US-08-881-971-4
; Sequence 4, Application US/08881971
; Patent No. 6013764
;  GENERAL INFORMATION:
;    APPLICANT:  Abdel-Magid, Ahmed F.
;    APPLICANT:  Eggmann, Urs
;    APPLICANT:  Maryanoff, Cynthia A.
;    APPLICANT:  Thaler, Adrian
;    APPLICANT:  Villani, Frank J.
;    TITLE OF INVENTION:  LIQUID PHASE PEPTIDE SYNTHESIS OF KL-4
;    TITLE OF INVENTION:  PULMONARY SURFACTANT PROTEIN
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Johnson & Johnson
;      STREET:  One Johnson & Johnson Plaza
;      CITY:  New Brunswick
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  08933-003
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/881,971
;      FILING DATE:
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/021,455
;      FILING DATE:  17-JUL-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Dow, Kenneth J.
;      REGISTRATION NUMBER:  32,890
;      REFERENCE/DOCKET NUMBER:  MCN-586
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  908-524-2641
;      TELEFAX:  908-524-2808
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  8 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
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US-08-881-971-4


  Query Match             100.0%;  Score 26;  DB 3;  Length 8;
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  Best Local Similarity   100.0%;  Pred. No. 1.7e+05;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db       1 KLLLLK 6


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US-08-881-971-6
; Sequence 6, Application US/08881971
; Patent No. 6013764
;  GENERAL INFORMATION:
;    APPLICANT:  Abdel-Magid, Ahmed F.
;    APPLICANT:  Eggmann, Urs
;    APPLICANT:  Maryanoff, Cynthia A.
;    APPLICANT:  Thaler, Adrian
;    APPLICANT:  Villani, Frank J.
;    TITLE OF INVENTION:  LIQUID PHASE PEPTIDE SYNTHESIS OF KL-4
;    TITLE OF INVENTION:  PULMONARY SURFACTANT PROTEIN
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Johnson & Johnson
;      STREET:  One Johnson & Johnson Plaza
;      CITY:  New Brunswick
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  08933-003
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/881,971
;      FILING DATE:
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/021,455
;      FILING DATE:  17-JUL-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Dow, Kenneth J.
;      REGISTRATION NUMBER:  32,890
;      REFERENCE/DOCKET NUMBER:  MCN-586
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  908-524-2641
;      TELEFAX:  908-524-2808
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  8 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-881-971-6


  Query Match             100.0%;  Score 26;  DB 3;  Length 8;
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Qy       1 KLLLLK 6
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Db       3 KLLLLK 8


RESULT   3
US-08-881-971-5
; Sequence 5, Application US/08881971
; Patent No. 6013764
;  GENERAL INFORMATION:
;    APPLICANT:  Abdel-Magid, Ahmed F.
;    APPLICANT:  Eggmann, Urs
;    APPLICANT:  Maryanoff, Cynthia A.
;    APPLICANT:  Thaler, Adrian
;    APPLICANT:  Villani, Frank J.
;    TITLE OF INVENTION:  LIQUID PHASE PEPTIDE SYNTHESIS OF KL-4
;    TITLE OF INVENTION:  PULMONARY SURFACTANT PROTEIN
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Johnson & Johnson
;      STREET:  One Johnson & Johnson Plaza
;      CITY:  New Brunswick
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  08933-003
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/881,971
;      FILING DATE:
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/021,455
;      FILING DATE:  17-JUL-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Dow, Kenneth J.
;      REGISTRATION NUMBER:  32,890
;      REFERENCE/DOCKET NUMBER:  MCN-586
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  908-524-2641
;      TELEFAX:  908-524-2808
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  13 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-881-971-5


  Query Match             100.0%;  Score 26;  DB 3;  Length 13;
  Best Local Similarity   100.0%;  Pred. No. 4.7;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
           ||||||
Db       3 KLLLLK 8


RESULT   4
US-08-881-971-3
; Sequence 3, Application US/08881971
; Patent No. 6013764
;  GENERAL INFORMATION:
;    APPLICANT:  Abdel-Magid, Ahmed F.
;    APPLICANT:  Eggmann, Urs
;    APPLICANT:  Maryanoff, Cynthia A.
;    APPLICANT:  Thaler, Adrian
;    APPLICANT:  Villani, Frank J.
;    TITLE OF INVENTION:  LIQUID PHASE PEPTIDE SYNTHESIS OF KL-4
;    TITLE OF INVENTION:  PULMONARY SURFACTANT PROTEIN
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Johnson & Johnson
;      STREET:  One Johnson & Johnson Plaza
;      CITY:  New Brunswick
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  08933-003
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
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;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/881,971
;      FILING DATE:
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/021,455
;      FILING DATE:  17-JUL-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Dow, Kenneth J.
;      REGISTRATION NUMBER:  32,890
;      REFERENCE/DOCKET NUMBER:  MCN-586
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  908-524-2641
;      TELEFAX:  908-524-2808
;  INFORMATION FOR SEQ ID NO:  3:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  18 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-881-971-3


  Query Match             100.0%;  Score 26;  DB 3;  Length 18;
  Best Local Similarity   100.0%;  Pred. No. 6.4;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db      3 KLLLLK 8


RESULT   5
US-07-715-397A-1
; Sequence 1, Application US/07715397A
; Patent No. 5260273
;  GENERAL INFORMATION:
;    APPLICANT:  Cochran, Charles G
;    APPLICANT:  Revak, Susan D
;    TITLE OF INVENTION:  PULMONARY SURFACTANT PROTEIN AND RELATED
;    TITLE OF INVENTION:  POLYPEPTIDE
;    NUMBER OF SEQUENCES:  3
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  The Scripps Research Institute, Office of
;      ADDRESSEE:  Patent Counsel
;      STREET:  3366 No. 5260273th Torrey Pines Ct., Suite 240
;      CITY:  La Jolla
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  92037
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/715,397A
;      FILING DATE:  19910614
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Fitting, Thomas
;      REGISTRATION NUMBER:  34,163
;      REFERENCE/DOCKET NUMBER:  SCR0395P
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  619-554-2937
;      TELEFAX:  619-554-6312
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  21 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    HYPOTHETICAL:  NO
;    ANTI-SENSE:  NO
;    FRAGMENT TYPE:  internal
US-07-715-397A-1


  Query Match             100.0%;  Score 26;  DB 1;  Length 21;
  Best Local Similarity   100.0%;  Pred. No. 7.5;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db      1 KLLLLK 6


RESULT   6
US-08-060-833-1
; Sequence 1, Application US/08060833
; Patent No. 5407914
;  GENERAL INFORMATION:
;    APPLICANT:  Cochrane, Charles G
;    APPLICANT:  Revak, Susan D
;    TITLE OF INVENTION:  PULMONARY SURFACTANT PROTEIN AND RELATED
;    TITLE OF INVENTION:  POLYPEPTIDES
;    NUMBER OF SEQUENCES:  3
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  The Scripps Research Institute, Office of
;      ADDRESSEE:  Patent Counsel
;      STREET:  10666 No. 5407914th Torrey Pines Road, TPC8
;      CITY:  La Jolla
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  92037
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/060,833
;      FILING DATE:  19930512
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Logan, April C
;      REGISTRATION NUMBER:  33,950
;      REFERENCE/DOCKET NUMBER:  SCR1309P
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  619-554-2937
;      TELEFAX:  619-554-6312
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  21 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    HYPOTHETICAL:  NO
;    ANTI-SENSE:  NO
;    FRAGMENT TYPE:  internal
US-08-060-833-1


  Query Match             100.0%;  Score 26;  DB 1;  Length 21;
  Best Local Similarity   100.0%;  Pred. No. 7.5;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db      1 KLLLLK 6
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RESULT   7
US-08-735-171-1
; Sequence 1, Application US/08735171
; Patent No. 5741891
;  GENERAL INFORMATION:
;    APPLICANT:  Weber, James V.
;    APPLICANT:  Kasulanis, Charles F.
;    APPLICANT:  Sampino, Keith
;    TITLE OF INVENTION:  PULMONARY SURFACTANT PEPTIDE
;    TITLE OF INVENTION:  SOLUBILIZATION PROCESS
;    NUMBER OF SEQUENCES:  1
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Johnson & Johnson
;      STREET:  One Johnson & Johnson Plaza
;      CITY:  New Brunswick
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  08933-003
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/735,171
;      FILING DATE:  22-OCT-1996
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Dow, Kenneth J.
;      REGISTRATION NUMBER:  32,890
;      REFERENCE/DOCKET NUMBER:  ORT-0812
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  908-524-2641
;      TELEFAX:  908-524-2808
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  21 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-735-171-1


  Query Match             100.0%;  Score 26;  DB 1;  Length 21;
  Best Local Similarity   100.0%;  Pred. No. 7.5;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
           ||||||
Db       1 KLLLLK 6


RESULT   8
US-08-419-824-1
; Sequence 1, Application US/08419824
; Patent No. 5789381
;  GENERAL INFORMATION:
;    APPLICANT:  Cochrane, Charles G
;    APPLICANT:  Revak, Susan D
;    TITLE OF INVENTION:  PULMONARY SURFACTANT PROTEIN AND RELATED
;    TITLE OF INVENTION:  POLYPEPTIDES
;    NUMBER OF SEQUENCES:  3
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  The Scripps Research Institute, Office of
;      ADDRESSEE:  Patent Counsel
;      STREET:  10666 No. 5789381th Torrey Pines Road, TPC 8
;      CITY:  La Jolla
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  92037
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/419,824
;      FILING DATE:  11-APR-1995
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/060,833
;      FILING DATE:  12-MAY-1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Logan, April C
;      REGISTRATION NUMBER:  33,950
;      REFERENCE/DOCKET NUMBER:  TSRI 147.2CON2
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  619-554-2937
;      TELEFAX:  619-554-6312
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  21 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-419-824-1


  Query Match             100.0%;  Score 26;  DB 1;  Length 21;
  Best Local Similarity   100.0%;  Pred. No. 7.5;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLLK 6
           ||||||
Db       1 KLLLLK 6


RESULT   9
US-08-826-261-1
; Sequence 1, Application US/08826261
; Patent No. 5952303
;  GENERAL INFORMATION:
;    APPLICANT:  Bornstein, Michael
;    APPLICANT:  Williams, N. Adeyinka
;    TITLE OF INVENTION:  LYOPHILIZED PULMONARY SURFACTANT PEPTIDE COMPOSITIONS
;    NUMBER OF SEQUENCES:  1
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Johnson & Johnson
;      STREET:  One Johnson & Johnson Plaza
;      CITY:  New Brunswick
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  08933-003
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/826,261
;      FILING DATE:  6-March-1997
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Dow, Kenneth J.
;      REGISTRATION NUMBER:  32,890
;      REFERENCE/DOCKET NUMBER:  ORT-0822
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  732-524-2641
;      TELEFAX:  732-524-2808
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  21 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
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;    MOLECULE TYPE:  peptide
US-08-826-261-1


  Query Match             100.0%;  Score 26;  DB 2;  Length 21;
  Best Local Similarity   100.0%;  Pred. No. 7.5;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db      1 KLLLLK 6


RESULT  10
US-08-848-580-1
; Sequence 1, Application US/08848580
; Patent No. 6013619
;  GENERAL INFORMATION:
;    APPLICANT:  Cochrane, Charles G
;    APPLICANT:  Revak, Susan D
;    TITLE OF INVENTION:  NOVEL PULMONARY SURFACTANTS AND
;    TITLE OF INVENTION:  THERAPEUTIC USES, INCLUDING PULMONARY LAVAGE
;    NUMBER OF SEQUENCES:  13
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  THE SCRIPPS RESEARCH INSTITUTE
;      STREET:  10550 No. 6013619th Torrey Pines Road, TPC-8
;      CITY:  La Jolla
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  92037
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/848,580
;      FILING DATE:  28-APR-1997
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/488,123
;      FILING DATE:  06-JUN-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/419,824
;      FILING DATE:  11-APR-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/060,833
;      FILING DATE:  12-MAY-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/715,397
;      FILING DATE:  14-JUN-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/293,201
;      FILING DATE:  04-JAN-1989
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/141,200
;      FILING DATE:  06-JAN-1988
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Fitting, Thomas
;      REGISTRATION NUMBER:  34,163
;      REFERENCE/DOCKET NUMBER:  TSRI 147.5
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  619-784-2937
;      TELEFAX:  619-784-9399
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  21 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-848-580-1


  Query Match             100.0%;  Score 26;  DB 3;  Length 21;
  Best Local Similarity   100.0%;  Pred. No. 7.5;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db      1 KLLLLK 6


RESULT  11
US-08-881-971-1
; Sequence 1, Application US/08881971
; Patent No. 6013764
;  GENERAL INFORMATION:
;    APPLICANT:  Abdel-Magid, Ahmed F.
;    APPLICANT:  Eggmann, Urs
;    APPLICANT:  Maryanoff, Cynthia A.
;    APPLICANT:  Thaler, Adrian
;    APPLICANT:  Villani, Frank J.
;    TITLE OF INVENTION:  LIQUID PHASE PEPTIDE SYNTHESIS OF KL-4
;    TITLE OF INVENTION:  PULMONARY SURFACTANT PROTEIN
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Johnson & Johnson
;      STREET:  One Johnson & Johnson Plaza
;      CITY:  New Brunswick
;      STATE:  New Jersey
;      COUNTRY:  USA
;      ZIP:  08933-003
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/881,971
;      FILING DATE:
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/021,455
;      FILING DATE:  17-JUL-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Dow, Kenneth J.
;      REGISTRATION NUMBER:  32,890
;      REFERENCE/DOCKET NUMBER:  MCN-586
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  908-524-2641
;      TELEFAX:  908-524-2808
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  21 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-881-971-1


  Query Match             100.0%;  Score 26;  DB 3;  Length 21;
  Best Local Similarity   100.0%;  Pred. No. 7.5;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db      1 KLLLLK 6


RESULT  12
PCT-US92-04537-7
; Sequence 7, Application PC/TUS9204537
;  GENERAL INFORMATION:
;    APPLICANT:  Cochrane, Charles G
;    APPLICANT:  Revak, Susan D
```

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;    TITLE OF INVENTION:  SYNTHETIC PULMONARY SURFACTANT PEPTIDES
;    NUMBER OF SEQUENCES:  10
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  The Scripps Research Institute, Office of
;      ADDRESSEE:  Patent Counsel
;      STREET:  10666 North Torrey Pines Road, Mail Drop TPC8
;      CITY:  La Jolla
;      STATE:  California
;      COUNTRY:  US
;      ZIP:  92037
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US92/04537
;      FILING DATE:  19920601
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/715,397
;      FILING DATE:  14-JUN-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Bingham, Douglas A
;      REGISTRATION NUMBER:  32,457
;      REFERENCE/DOCKET NUMBER:  SCR1025P
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  619-554-2937
;      TELEFAX:  619-554-6312
;  INFORMATION FOR SEQ ID NO:  7:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  21 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
PCT-US92-04537-7


  Query Match             100.0%;  Score 26;  DB 5;  Length 21;
  Best Local Similarity   100.0%;  Pred. No. 7.5;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db      1 KLLLLK 6


RESULT  13
US-07-920-281C-2
; Sequence 2, Application US/07920281C
; Patent No. 5739026
;  GENERAL INFORMATION:
;    APPLICANT:  Garoff, Henrik
;    APPLICANT:  Liljestrom, Peter
;    TITLE OF INVENTION:  DNA Expression Systems Based on
;    TITLE OF INVENTION:  Alphaviruses
;    NUMBER OF SEQUENCES:  27
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Birch, Stewart, Kolasch & Birch
;      STREET:  P.O. Box 747
;      CITY:  Falls Church
;      STATE:  Virginia
;      COUNTRY:  USA
;      ZIP:  22040-0747
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/920,281C
;      FILING DATE:  13-AUG-1992
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Murphy Jr., Gerald M.
;      REGISTRATION NUMBER:  28,977
;      REFERENCE/DOCKET NUMBER:  828-103P
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  703-241-1300
;      TELEFAX:  703-241-2848
;      TELEX:  248345
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  2431 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-07-920-281C-2


  Query Match             100.0%;  Score 26;  DB 1;  Length 2431;
  Best Local Similarity   100.0%;  Pred. No. 8.6e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db   1863 KLLLLK 1868


RESULT  14
US-08-466-277-2
; Sequence 2, Application US/08466277
; Patent No. 6190666
;  GENERAL INFORMATION:
;       APPLICANT: Garoff, Henrik
;                  Liljestrom, Peter
;       TITLE OF INVENTION: DNA Expression Systems Based on
;                           Alphaviruses
;       NUMBER OF SEQUENCES: 27
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Birch, Stewart, Kolasch & Birch
;            STREET: P.O. Box 747
;            CITY: Falls Church
;            STATE: Virginia
;            COUNTRY: USA
;            ZIP: 22040-0747
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.25
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/08/466,277
;            FILING DATE: 06-Jun-1995
;            CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: 07/920,281
;            FILING DATE: <Unknown>
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Murphy Jr., Gerald M.
;            REGISTRATION NUMBER: 28,977
;            REFERENCE/DOCKET NUMBER: 828-103P
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: 703-241-1300
;            TELEFAX: 703-241-2848
;            TELEX: 248345
;   INFORMATION FOR SEQ ID NO: 2:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 2431 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-08-466-277-2
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  Query Match            100.0%;  Score 26;  DB 4;  Length 2431;
  Best Local Similarity  100.0%;  Pred. No. 8.6e+02;
  Matches    6;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLLK 6
          ||||||
Db   1863 KLLLLK 1868


RESULT  15
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; Sequence 1, Application US/09088549
; Patent No. 6231853
;  GENERAL INFORMATION:
;    APPLICANT:  HILLMAN, JENNIFER L.
;    APPLICANT:  CORLEY, NEIL C.
;    APPLICANT:  PATTERSON, CHANDRA
;    TITLE OF INVENTION:  HUMAN GLUTATHIONE PEROXIDASE-6
;    NUMBER OF SEQUENCES:  3
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Incyte Pharmaceuticals, Inc.
;      STREET:  3174 Porter Drive
;      CITY:  Palo Alto
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94304
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  Windows
;      SOFTWARE:  FastSEQ for Windows Version 2.0b
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/088,549
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Cerrone, Michael C
;      REGISTRATION NUMBER:  39,132
;      REFERENCE/DOCKET NUMBER:  PF-0530 US
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  650-855-0555
;      TELEFAX:  650-855-0572
;      TELEX:
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  187 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    IMMEDIATE SOURCE:
;      LIBRARY:  PROSNOT20
;      CLONE:  1817518
US-09-088-549-1


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Qy      1 KLLLLK 6
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Db    178 KLILLK 183


Search completed: June 17, 2002, 12:42:04
Job time: 224 sec
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GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:41:22 ; Search time 94.14 Seconds
(without alignments)
9.439 Million cell updates/sec

Title: US-09-367-714A-29
Perfect score: 35
Sequence: 1 KLLLKLLK 8

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters: 747574

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 35 | 100.0 | 8 | 18 | AAW35155 | Leu/Lys diastereom |
| 2 | 35 | 100.0 | 8 | 19 | AAW82853 | Antipathogenic pep |
| 3 | 35 | 100.0 | 8 | 21 | AAB17419 | Antipathogenic pep |
| 4 | 35 | 100.0 | 12 | 18 | AAW35149 | Leu/Lys diastereom |
| 5 | 35 | 100.0 | 12 | 18 | AAW35152 | Leu/Lys diastereom |
| 6 | 35 | 100.0 | 12 | 19 | AAW82847 | Antipathogenic pep |
| 7 | 35 | 100.0 | 12 | 19 | AAW82850 | Antipathogenic pep |
| 8 | 35 | 100.0 | 12 | 19 | AAW82856 | Antipathogenic pep |
| 9 | 35 | 100.0 | 12 | 21 | AAB17413 | Antipathogenic pep |
| 10 | 35 | 100.0 | 12 | 21 | AAB17416 | Antipathogenic pep |
| 11 | 35 | 100.0 | 12 | 21 | AAB17483 | Antipathogenic pep |
| 12 | 35 | 100.0 | 12 | 21 | AAB17485 | Antipathogenic pep |
| 13 | 35 | 100.0 | 13 | 18 | AAW35231 | Diastereomer pepti |
| 14 | 35 | 100.0 | 13 | 21 | AAB17482 | Antipathogenic pep |
| 15 | 35 | 100.0 | 14 | 19 | AAW82854 | Antipathogenic pep |
| 16 | 35 | 100.0 | 37 | 19 | AAW77378 | Lytic peptide with |
| 17 | 35 | 100.0 | 77 | 19 | AAW82858 | Antipathogenic pep |
| 18 | 35 | 100.0 | 77 | 19 | AAW82859 | Antipathogenic pep |
| 19 | 33 | 94.3 | 18 | 13 | AAR20977 | Sequence of amphip |
| 20 | 33 | 94.3 | 18 | 13 | AAR22830 | Amphiphilic peptid |
| 21 | 31 | 88.6 | 153 | 20 | AAY29393 | Sperm whale myoglo |
| 22 | 31 | 88.6 | 359 | 20 | AAW81359 | Human alpha-2-3 si |
| 23 | 31 | 88.6 | 414 | 22 | AAE10702 | Mouse GM3 synthase |
| 24 | 30 | 85.7 | 11 | 22 | AAB97447 | Peptide nucleic ac |
| 25 | 30 | 85.7 | 15 | 19 | AAW77384 | Lytic peptide with |
| 26 | 30 | 85.7 | 21 | 19 | AAW62968 | Minimalist lytic p |
| 27 | 30 | 85.7 | 21 | 22 | AAU03187 | Membrane active sy |
| 28 | 30 | 85.7 | 21 | 22 | AAB60066 | KL3 membrane activ |
| 29 | 30 | 85.7 | 74 | 22 | ABG29957 | Novel human diagno |
| 30 | 30 | 85.7 | 125 | 22 | AAU17004 | Human novel secret |
| 31 | 30 | 85.7 | 135 | 22 | AAY97766 | I. scapularis Salp |
| 32 | 30 | 85.7 | 205 | 22 | ABG29958 | Novel human diagno |
| 33 | 30 | 85.7 | 216 | 21 | AAB08846 | A human MDMIP-bind |
| 34 | 30 | 85.7 | 283 | 22 | AAB60324 | Helicobacter pylor |
| 35 | 30 | 85.7 | 284 | 16 | AAR75397 | Human double minut |
| 36 | 30 | 85.7 | 284 | 16 | AAR75494 | Human double minut |
| 37 | 30 | 85.7 | 295 | 18 | AAW20723 | H. pylori cytoplas |
| 38 | 30 | 85.7 | 314 | 21 | AAB43933 | Human cancer assoc |
| 39 | 30 | 85.7 | 314 | 22 | AAE03235 | Human gene 12 enco |
| 40 | 30 | 85.7 | 315 | 18 | AAW19946 | Alzheimer's diseas |
| 41 | 30 | 85.7 | 361 | 22 | ABG29956 | Novel human diagno |
| 42 | 30 | 85.7 | 377 | 22 | AAU16931 | Human novel secret |
| 43 | 30 | 85.7 | 413 | 22 | ABG21008 | Novel human diagno |
| 44 | 30 | 85.7 | 489 | 14 | AAR42176 | Murine MDM2. Mus |
| 45 | 30 | 85.7 | 489 | 16 | AAR76697 | Mouse MDM2 protein |

ALIGNMENTS

RESULT 1
AAW35155
ID AAW35155 standard; peptide; 8 AA.
XX
AC AAW35155;
XX
DT 14-APR-1998 (first entry)
XX
DE Leu/Lys diastereomer peptide [D]-L2,4,6-K3L5.
XX
KW Leu/Lys diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW Honey bee venom; pardaxin; cytolytic activity; cancer;
KW non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW agricultural pesticide; cell wall lysis.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 2
FT /note= "D-form residue"
FT Misc-difference 4
FT /note= "D-form residue"
FT Misc-difference 6
FT /note= "D-form residue"
XX
PN WO9731019-A2.
XX
PD 28-AUG-1997.
XX
PF 20-FEB-1997; 97WO-IL00066.
XX
PR 22-FEB-1996; 96IL-0117223.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.

XX
PI Oren Z, Shai Y;
XX
DR WPI; 1997-435088/40.
XX
PT Peptide(s) having selective cytolytic activity - against pathogens
PT and malignant cells, but no haemolytic activity, used for treating
PT infections and cancer
XX
PS Claim 21; Page 40; 80pp; English.
XX
CC This sequence represents a Leu/Lys diastereomer peptide of the
CC invention. The peptides of the invention have: (a) cytolytic activity on
CC pathogenic cells (pathogens and malignant cells not naturally present in
CC the body); but (b) no haemolytic activity, or such activity only at a
CC concentration significantly higher than that at which they lyse
CC pathogens. The peptides, their complexes and mixtures are used to treat
CC infections (caused by bacteria, fungi, protozoa, mycoplasma or viruses)
CC or cancer, in human and veterinary medicine. Also, they can be used as
CC preservatives for food, cosmetics and agricultural produce, or as
CC agricultural pesticides. The absence of haemolytic activity (associated
CC with disturbance of alpha-helical structures) means that the peptides
CC have few if any toxic effects, and those that include D-aa will have
CC increased resistance to proteolytic degradation. Non-haemolytic,
CC cytotoxic random copolymers of pardaxin, each has a specific spectrum of
CC activity, allowing selection of agents for particular applications. Since
CC these random copolymers induce total lysis of bacterial cell walls,
CC resistance to them is unlikely to develop.
XX
SQ Sequence 8 AA;

Query Match 100.0%; Score 35; DB 18; Length 8;
Best Local Similarity 100.0%; Pred. No. 6.4e+05;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||||||||
Db 1 klllkllk 8

RESULT 2
AAW82853
ID AAW82853 standard; peptide; 8 AA.
XX
AC AAW82853;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 13; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 8 AA;

Query Match 100.0%; Score 35; DB 19; Length 8;
Best Local Similarity 100.0%; Pred. No. 6.4e+05;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||||||||
Db 1 klllkllk 8

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AAB17419
ID AAB17419 standard; Peptide; 8 AA.
XX
AC AAB17419;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:523.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and

```
PT   autoimmune diseases -
XX
PS   Claim 39; Page 380; 608pp; English.
XX
CC   The present invention describes composition of matter (I) comprising an
CC   Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC   (X1)a-F1-(X2)b,  where: F1 = an Fc domain; X1 and X2 = are each
CC   independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC   -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC   where P1, P2, P3, and P4 = are each independently sequences of
CC   pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC   independently linkers; and a, b, c, d, e, and f = are each independently
CC   0 or 1, provided that at least 1 of a and b is 1. The composition can
CC   have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC   activities. DNAs, vectors and host cells from the present invention can
CC   be used for producing pharmaceutical compositions. The compositions are
CC   useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC   The use of an Fc domain (rather than a Fab domain) can provide a longer
CC   half-life or incorporate functions such as Fc receptor binding, protein
CC   A binding, complement fixation, and possibly placental transfer. AAA69443
CC   to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC   sequences used in the exemplification of the present invention.
XX
SQ   Sequence   8 AA;


  Query Match             100.0%;  Score 35;  DB 21;  Length 8;
  Best Local Similarity   100.0%;  Pred. No. 6.4e+05;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
           ||||||||
Db       1 klllkllk 8


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ID   AAW35149 standard; peptide; 12 AA.
XX
AC   AAW35149;
XX
DT   14-APR-1998  (first entry)
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DE   Leu/Lys diastereomer peptide [D]-L3,4,8,10-K4L8.
XX
KW   Leu/Lys diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW   Honey bee venom; pardaxin; cytolytic activity; cancer;
KW   non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW   agricultural pesticide; cell wall lysis.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 3
FT                   /note= "D-form residue"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Misc-difference 8
FT                   /note= "D-form residue"
FT   Misc-difference 10
FT                   /note= "D-form residue"
FT   Modified-site   12
FT                   /note= "C-terminal amide"
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PN   WO9731019-A2.
XX
PD   28-AUG-1997.
XX
PF   20-FEB-1997;   97WO-IL00066.
XX
PR   22-FEB-1996;   96IL-0117223.
XX
PA   (YEDA ) YEDA RES & DEV CO LTD.
XX
PI   Oren Z,  Shai Y;
XX
DR   WPI; 1997-435088/40.
XX
PT   Peptide(s) having selective cytolytic activity - against pathogens
PT   and malignant cells, but no haemolytic activity, used for treating
PT   infections and cancer
XX
PS   Claim 21; Page 39; 80pp; English.
XX
CC   This sequence represents a Leu/Lys diastereomer peptide of the
CC   invention. The peptides of the invention have: (a) cytolytic activity on
CC   pathogenic cells (pathogens and malignant cells not naturally present in
CC   the body); but (b) no haemolytic activity, or such activity only at a
CC   concentration significantly higher than that at which they lyse
CC   pathogens. The peptides, their complexes and mixtures are used to treat
CC   infections (caused by bacteria, fungi, protozoa, mycoplasma or viruses)
CC   or cancer, in human and veterinary medicine. Also, they can be used as
CC   preservatives for food, cosmetics and agricultural produce, or as
CC   agricultural pesticides. The absence of haemolytic activity (associated
CC   with disturbance of alpha-helical structures) means that the peptides
CC   have few if any toxic effects, and those that include D-aa will have
CC   increased resistance to proteolytic degradation. Non-haemolytic,
CC   cytotoxic random copolymers of pardaxin, each has a specific spectrum of
CC   activity, allowing selection of agents for particular applications. Since
CC   these random copolymers induce total lysis of bacterial cell walls,
CC   resistance to them is unlikely to develop.
XX
SQ   Sequence   12 AA;


  Query Match             100.0%;  Score 35;  DB 18;  Length 12;
  Best Local Similarity   100.0%;  Pred. No. 2.6;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
           ||||||||
Db       5 klllkllk 12


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ID   AAW35152 standard; peptide; 12 AA.
XX
AC   AAW35152;
XX
DT   14-APR-1998  (first entry)
XX
DE   Leu/Lys diastereomer peptide [D]-K1,5,9,12L2,6,7,11-K4L8.
XX
KW   Leu/Lys diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW   Honey bee venom; pardaxin; cytolytic activity; cancer;
KW   non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW   agricultural pesticide; cell wall lysis.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1
FT                   /note= "D-form residue"
FT   Misc-difference 2
FT                   /note= "D-form residue"
FT   Misc-difference 5
FT                   /note= "D-form residue"
FT   Misc-difference 6
FT                   /note= "D-form residue"
FT   Misc-difference 7
FT                   /note= "D-form residue"
FT   Misc-difference 9
FT                   /note= "D-form residue"
FT   Misc-difference 11
FT                   /note= "D-form residue"
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FT Misc-difference 12
FT /note= "D-form residue"
FT Modified-site 12
FT /note= "C-terminal amide"
XX
PN WO9731019-A2.
XX
PD 28-AUG-1997.
XX
PF 20-FEB-1997; 97WO-IL00066.
XX
PR 22-FEB-1996; 96IL-0117223.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1997-435088/40.
XX
PT Peptide(s) having selective cytolytic activity - against pathogens
PT and malignant cells, but no haemolytic activity, used for treating
PT infections and cancer
XX
PS Claim 21; Page 40; 80pp; English.
XX
CC This sequence represents a Leu/Lys diastereomer peptide of the
CC invention. The peptides of the invention have: (a) cytolytic activity on
CC pathogenic cells (pathogens and malignant cells not naturally present in
CC the body); but (b) no haemolytic activity, or such activity only at a
CC concentration significantly higher than that at which they lyse
CC pathogens. The peptides, their complexes and mixtures are used to treat
CC infections (caused by bacteria, fungi, protozoa, mycoplasma or viruses)
CC or cancer, in human and veterinary medicine. Also, they can be used as
CC preservatives for food, cosmetics and agricultural produce, or as
CC agricultural pesticides. The absence of haemolytic activity (associated
CC with disturbance of alpha-helical structures) means that the peptides
CC have few if any toxic effects, and those that include D-aa will have
CC increased resistance to proteolytic degradation. Non-haemolytic,
CC cytotoxic random copolymers of pardaxin, each has a specific spectrum of
CC activity, allowing selection of agents for particular applications. Since
CC these random copolymers induce total lysis of bacterial cell walls,
CC resistance to them is unlikely to develop.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 35; DB 18; Length 12;
Best Local Similarity 100.0%; Pred. No. 2.6;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||||||||
Db 5 klllkllk 12

RESULT 6
AAW82847
ID AAW82847 standard; peptide; 12 AA.
XX
AC AAW82847;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 12; Page 105; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 35; DB 19; Length 12;
Best Local Similarity 100.0%; Pred. No. 2.6;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||||||||
Db 5 klllkllk 12

RESULT 7
AAW82850
ID AAW82850 standard; peptide; 12 AA.
XX
AC AAW82850;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.

XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 13; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 35; DB 19; Length 12;
Best Local Similarity 100.0%; Pred. No. 2.6;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||||||||
Db 5 klllkllk 12

RESULT 8
AAW82856
ID AAW82856 standard; peptide; 12 AA.
XX
AC AAW82856;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 14; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 35; DB 19; Length 12;
Best Local Similarity 100.0%; Pred. No. 2.6;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||||||||
Db 5 klllkllk 12

RESULT 9
AAB17413
ID AAB17413 standard; Peptide; 12 AA.
XX
AC AAB17413;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:517.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX

DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 378; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 35; DB 21; Length 12;
Best Local Similarity 100.0%; Pred. No. 2.6;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||||||||
Db 5 klllkllk 12

RESULT 10
AAB17416
ID AAB17416 standard; Peptide; 12 AA.
XX
AC AAB17416;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:520.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.

XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 379; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 35; DB 21; Length 12;
Best Local Similarity 100.0%; Pred. No. 2.6;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||||||||
Db 5 klllkllk 12

RESULT 11
AAB17483
ID AAB17483 standard; Peptide; 12 AA.
XX
AC AAB17483;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:587.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX

```
PT   Novel composition of matter comprising an Fc domain and
PT   pharmacologically active peptides, useful for treating cancer and
PT   autoimmune diseases -
XX
PS   Claim 39; Page 401; 608pp; English.
XX
CC   The present invention describes composition of matter (I) comprising an
CC   Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC   (X1)a-F1-(X2)b,  where: F1 = an Fc domain; X1 and X2 = are each
CC   independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC   -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC   where P1, P2, P3, and P4 = are each independently sequences of
CC   pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC   independently linkers; and a, b, c, d, e, and f = are each independently
CC   0 or 1, provided that at least 1 of a and b is 1. The composition can
CC   have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC   activities. DNAs, vectors and host cells from the present invention can
CC   be used for producing pharmaceutical compositions. The compositions are
CC   useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC   The use of an Fc domain (rather than a Fab domain) can provide a longer
CC   half-life or incorporate functions such as Fc receptor binding, protein
CC   A binding, complement fixation, and possibly placental transfer. AAA69443
CC   to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC   sequences used in the exemplification of the present invention.
XX
SQ   Sequence   12 AA;


  Query Match             100.0%;  Score 35;  DB 21;  Length 12;
  Best Local Similarity   100.0%;  Pred. No. 2.6;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          ||||||||
Db      5 klllkllk 12


RESULT  12
AAB17485
ID   AAB17485 standard; Peptide; 12 AA.
XX
AC   AAB17485;
XX
DT   31-OCT-2000  (first entry)
XX
DE   Antipathogenic peptide sequence SEQ ID NO:589.
XX
KW   Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW   autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW   immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW   MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW   cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW   vascular endothelial growth factor; matrix metalloproteinase;
KW   asthma; thrombosis; pharmaceutical.
XX
OS   Synthetic.
XX
PN   WO200024782-A2.
XX
PD   04-MAY-2000.
XX
PF   25-OCT-1999;   99WO-US25044.
XX
PR   23-OCT-1998;   98US-0105371.
PR   22-OCT-1999;   99US-0428082.
XX
PA   (AMGE-) AMGEN INC.
XX
PI   Feige U,  Liu C,  Cheetham J,  Boone TC;
XX
DR   WPI; 2000-350702/30.
XX
PT   Novel composition of matter comprising an Fc domain and
PT   pharmacologically active peptides, useful for treating cancer and
PT   autoimmune diseases -
XX
PS   Claim 39; Page 402; 608pp; English.
XX
CC   The present invention describes composition of matter (I) comprising an
CC   Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC   (X1)a-F1-(X2)b,  where: F1 = an Fc domain; X1 and X2 = are each
CC   independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC   -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC   where P1, P2, P3, and P4 = are each independently sequences of
CC   pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC   independently linkers; and a, b, c, d, e, and f = are each independently
CC   0 or 1, provided that at least 1 of a and b is 1. The composition can
CC   have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC   activities. DNAs, vectors and host cells from the present invention can
CC   be used for producing pharmaceutical compositions. The compositions are
CC   useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC   The use of an Fc domain (rather than a Fab domain) can provide a longer
CC   half-life or incorporate functions such as Fc receptor binding, protein
CC   A binding, complement fixation, and possibly placental transfer. AAA69443
CC   to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC   sequences used in the exemplification of the present invention.
XX
SQ   Sequence   12 AA;


  Query Match             100.0%;  Score 35;  DB 21;  Length 12;
  Best Local Similarity   100.0%;  Pred. No. 2.6;
  Matches    8;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          ||||||||
Db      5 klllkllk 12


RESULT  13
AAW35231
ID   AAW35231 standard; peptide; 13 AA.
XX
AC   AAW35231;
XX
DT   14-APR-1998  (first entry)
XX
DE   Diastereomer peptide [D]-L3,4,8,10-K4L8C.
XX
KW   Diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW   Honey bee venom; pardaxin; cytolytic activity; cancer;
KW   non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW   agricultural pesticide; cell wall lysis.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 3
FT                   /note= "D-form residue"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Misc-difference 8
FT                   /note= "D-form residue"
FT   Misc-difference 10
FT                   /note= "D-form residue"
XX
PN   WO9731019-A2.
XX
PD   28-AUG-1997.
XX
PF   20-FEB-1997;   97WO-IL00066.
XX
PR   22-FEB-1996;   96IL-0117223.
XX
PA   (YEDA ) YEDA RES & DEV CO LTD.
XX
```

PI Oren Z, Shai Y;
XX
DR WPI; 1997-435088/40.
XX
PT Peptide(s) having selective cytolytic activity - against pathogens
PT and malignant cells, but no haemolytic activity, used for treating
PT infections and cancer
XX
PS Example 7; Page 49; 80pp; English.
XX
CC This sequence represents a diastereomer peptide of the invention. This
CC sequence is used in a "bundle sequence", which is created by binding 5
CC copies of this sequence to peptide 23 (see AAW35149). The peptides of
CC the invention have: (a) cytolytic activity on pathogenic cells (pathogens
CC and malignant cells not naturally present in the body); but (b) no
CC haemolytic activity, or such activity only at a concentration
CC significantly higher than that at which they lyse pathogens. The
CC peptides, their complexes and mixtures are used to treat infections
CC (caused by bacteria, fungi, protozoa, mycoplasma or viruses) or cancer,
CC in human and veterinary medicine. Also, they can be used as preservatives
CC for food, cosmetics and agricultural produce, or as agricultural
CC pesticides. The absence of haemolytic activity (associated with
CC disturbance of alpha-helical structures) means that the peptides have few
CC if any toxic effects, and those that include D-aa will have increased
CC resistance to proteolytic degradation. Non-haemolytic, cytotoxic random
CC copolymers of pardaxin, each has a specific spectrum of activity,
CC allowing selection of agents for particular applications. Since these
CC random copolymers induce total lysis of bacterial cell walls, resistance
CC to them is unlikely to develop.
XX
SQ Sequence 13 AA;

Query Match 100.0%; Score 35; DB 18; Length 13;
Best Local Similarity 100.0%; Pred. No. 2.8;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||||||||
Db 5 klllkllk 12

RESULT 14
AAB17482
ID AAB17482 standard; Peptide; 13 AA.
XX
AC AAB17482;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:586.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX

PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 401; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 13 AA;

Query Match 100.0%; Score 35; DB 21; Length 13;
Best Local Similarity 100.0%; Pred. No. 2.8;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||||||||
Db 5 klllkllk 12

RESULT 15
AAW82854
ID AAW82854 standard; peptide; 14 AA.
XX
AC AAW82854;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the

PT continuity of an alpha-helical structure
XX
PS Claim 14; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 14 AA;

Query Match 100.0%; Score 35; DB 19; Length 14;
Best Local Similarity 100.0%; Pred. No. 3;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 KLLLKLLK 8
          ||||||||
Db      6 klllkllk 13
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Search completed: June 17, 2002, 12:41:23
Job time: 298 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:42:59 ; Search time 46.42 Seconds
(without alignments)
16.560 Million cell updates/sec

Title: US-09-367-714A-29
Perfect score: 35
Sequence: 1 KLLLKLLK 8

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 32 | 91.4 | 238 | 2 | E71375 | probable ABC trans |
| 2 | 32 | 91.4 | 302 | 2 | S27846 | hypothetical prote |
| 3 | 31 | 88.6 | 109 | 2 | S42121 | RNaseP C5 chain - |
| 4 | 31 | 88.6 | 296 | 2 | G97799 | hypothetical prote |
| 5 | 31 | 88.6 | 387 | 2 | JE0364 | lactosylceramide a |
| 6 | 31 | 88.6 | 1211 | 2 | S68251 | phospholipase C, i |
| 7 | 30 | 85.7 | 166 | 2 | H82873 | hypothetical prote |
| 8 | 30 | 85.7 | 191 | 2 | F90392 | hypothetical prote |
| 9 | 30 | 85.7 | 282 | 2 | G71932 | hypothetical prote |
| 10 | 30 | 85.7 | 321 | 2 | F71163 | probable oligopept |
| 11 | 30 | 85.7 | 433 | 2 | A69735 | phage PBSX termina |
| 12 | 30 | 85.7 | 489 | 2 | S15349 | mdm2 protein - mou |
| 13 | 30 | 85.7 | 491 | 1 | S24354 | p53-binding protei |
| 14 | 30 | 85.7 | 515 | 2 | T39031 | hypothetical prote |
| 15 | 30 | 85.7 | 727 | 2 | T47638 | hypothetical prote |
| 16 | 30 | 85.7 | 984 | 1 | DJNVCP | DNA-directed DNA p |
| 17 | 30 | 85.7 | 986 | 2 | T41809 | DNA polymerase orf |
| 18 | 30 | 85.7 | 1052 | 2 | T00067 | hypothetical prote |
| 19 | 30 | 85.7 | 2513 | 2 | G96536 | hypothetical prote |
| 20 | 29 | 82.9 | 155 | 2 | T45215 | transcription regu |
| 21 | 29 | 82.9 | 181 | 2 | C69057 | conserved bacitrac |
| 22 | 29 | 82.9 | 311 | 2 | A88601 | protein Y49E10.8 [ |
| 23 | 29 | 82.9 | 346 | 2 | T51377 | hypothetical prote |
| 24 | 29 | 82.9 | 362 | 2 | F90441 | ABC transporter, A |
| 25 | 29 | 82.9 | 384 | 2 | G81436 | probable serine/th |
| 26 | 29 | 82.9 | 464 | 2 | T48984 | hypothetical prote |
| 27 | 29 | 82.9 | 465 | 2 | T30155 | hypothetical prote |
| 28 | 29 | 82.9 | 473 | 2 | F70513 | probable PPE prote |
| 29 | 29 | 82.9 | 632 | 2 | AF1189 | transcription anti |
| 30 | 29 | 82.9 | 632 | 2 | AG1547 | transcription anti |
| 31 | 29 | 82.9 | 641 | 2 | G85043 | hypothetical prote |
| 32 | 29 | 82.9 | 669 | 2 | T44681 | GTP-binding protei |
| 33 | 29 | 82.9 | 684 | 2 | E64496 | ATP-dependent RNA |
| 34 | 29 | 82.9 | 753 | 2 | JC7386 | retinovin - chicke |
| 35 | 29 | 82.9 | 802 | 2 | G89893 | PriA, primosomal p |
| 36 | 29 | 82.9 | 884 | 2 | E86244 | unknown protein, 4 |
| 37 | 29 | 82.9 | 1223 | 2 | S62011 | PHO85 protein - ye |
| 38 | 29 | 82.9 | 1846 | 2 | T10670 | hypothetical prote |
| 39 | 29 | 82.9 | 1941 | 2 | T30554 | ubiquitin-protein |
| 40 | 28 | 80.0 | 118 | 2 | F90459 | hypothetical prote |
| 41 | 28 | 80.0 | 138 | 2 | S36115 | interferon - Japan |
| 42 | 28 | 80.0 | 138 | 2 | AC1108 | transcription regu |
| 43 | 28 | 80.0 | 138 | 2 | AD1469 | transcription regu |
| 44 | 28 | 80.0 | 149 | 2 | C84053 | sodium-glutamate/a |
| 45 | 28 | 80.0 | 164 | 2 | T03915 | hypothetical prote |

ALIGNMENTS

RESULT 1
E71375
probable ABC transporter, ATP-binding protein - syphilis spirochete
C;Species: Treponema pallidum subsp. pallidum (syphilis spirochete)
C;Date: 24-Jul-1998 #sequence_revision 24-Jul-1998 #text_change 17-Mar-2000
C;Accession: E71375
R;Fraser, C.M.; Norris, S.J.; Weinstock, G.M.; White, O.; Sutton, G.G.; Dodson, R.; G
rson, J.; Khalak, H.; Richardson, D.; Howell, J.K.; Chidambaram, M.; Utterback, T.; M
they, L.; Weidman, J.; Smith, H.O.; Venter, J.C.
Science 281, 375-388, 1998
A;Title: Complete genome sequence of Treponema pallidum, the syphilis spirochete.
A;Reference number: A71250; MUID:98332770
A;Accession: E71375
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-238 <COL>
A;Cross-references: GB:AE001188; GB:AE000520; NID:g3322282; PIDN:AAC65030.1; PID:g332
A;Experimental source: strain Nichols
C;Genetics:
A;Gene: TP0035
C;Superfamily: unassigned ATP-binding cassette proteins; ATP-binding cassette homolog
C;Keywords: ATP
F;27-207/Domain: ATP-binding cassette homology <ABC>

Query Match 91.4%; Score 32; DB 2; Length 238;
Best Local Similarity 87.5%; Pred. No. 32;
Matches 7; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy       1 KLLLKLLK 8
            ||:|||||
Db      55 KLVLKLLK 62
```

RESULT 2
S27846
hypothetical protein - Trypanosoma brucei (fragment)
C;Species: Trypanosoma brucei
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 09-Sep-1997
C;Accession: S27846
R;Woodward, R.; Carden, M.J.; Gull, K.
submitted to the EMBL Data Library, March 1992
A;Reference number: S27846
A;Accession: S27846
A;Molecule type: mRNA
A;Residues: 1-302 <WOO>
A;Cross-references: EMBL:M87318; NID:g162176; PID:g162177

Query Match 91.4%; Score 32; DB 2; Length 302;
Best Local Similarity 87.5%; Pred. No. 40;
Matches 7; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy       1 KLLLKLLK 8
            |||||:||
Db      21 KLLLKVLK 28


RESULT   3
S42121
RNaseP C5 chain - Mycoplasma capricolum
C;Species: Mycoplasma capricolum
C;Date: 07-Sep-1994 #sequence_revision 26-May-1995 #text_change 20-Jun-2000
C;Accession: S42121
R;Miyata, M.; Sano, K.I.; Okada, R.; Fukumura, T.
Nucleic Acids Res. 21, 4816-4823, 1993
A;Title: Mapping of replication initiation site in Mycoplasma capricolum genome by two-d
A;Reference number: S42116; MUID:94051609
A;Accession: S42121
A;Status: preliminary; nucleic acid sequence not shown
A;Molecule type: DNA
A;Residues: 1-109 <MIY>
A;Cross-references: EMBL:D14982; NID:g416237; PIDN:BAA03619.1; PID:g416239
C;Genetics:
A;Genetic code: SGC3
C;Superfamily: ribonuclease P, protein component

  Query Match             88.6%;  Score 31;  DB 2;  Length 109;
  Best Local Similarity   75.0%;  Pred. No. 24;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            |||:||:|
Db      99 KLLIKLIK 106


RESULT   4
G97799
hypothetical protein RC0799 [imported] - Rickettsia conorii (strain Malish 7)
C;Species: Rickettsia conorii
C;Date: 30-Sep-2001 #sequence_revision 30-Sep-2001 #text_change 30-Sep-2001
C;Accession: G97799
R;Ogata, H.; Audic, S.; Renesto-Audiffren, P.; Fournier, P.E.; Barbe, V.; Samson, D.; Rc
Science 293, 2093-2098, 2001
A;Title: Mechanisms of Evolution in Rickettsia conorii and Rickettsia prowazekii.
A;Reference number: A97700; MUID:21442074; PMID:11557893
A;Accession: G97799
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-296 <KUR>
A;Cross-references: GB:AE006914; PIDN:AAL03337.1; PID:g15619897; GSPDB:GN00173
C;Genetics:
A;Gene: RC0799

  Query Match             88.6%;  Score 31;  DB 2;  Length 296;
  Best Local Similarity   75.0%;  Pred. No. 64;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            |:|||:||
Db     287 KILLKILK 294


RESULT   5
JE0364
lactosylceramide alpha-2,3-sialytransferase (EC 2.4.99.9) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 23-Jul-1999 #sequence_revision 23-Jul-1999 #text_change 11-May-2000
C;Accession: JE0364
R;Kono, M.; Takashima, S.; Liu, H.; Inoue, M.; Kojima, N.; Lee, Y.; Hamamoto, T.; Tsuji,
Biochem. Biophys. Res. Commun. 253, 170-175, 1998
A;Title: Molecular cloning and functional expression of a fifth-type alpha2,3-sialyltran
A;Reference number: JE0364; MUID:99092398
A;Accession: JE0364
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-387 <KON>
A;Cross-references: GB:Y15003
C;Superfamily: alpha-2,3-sialyltransferase ST2
C;Keywords: glycosyltransferase

  Query Match             88.6%;  Score 31;  DB 2;  Length 387;
  Best Local Similarity   87.5%;  Pred. No. 83;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            | ||||||
Db     368 KFLLKLLK 375


RESULT   6
S68251
phospholipase C, inositol-lipid specific (EC 3.1.4.-) isoform beta - turkey
C;Species: Meleagris gallopavo (common turkey)
C;Date: 05-Dec-1996 #sequence_revision 07-Feb-1997 #text_change 22-Jun-1999
C;Accession: S68251; S72374; A61270
R;Waldo, G.L.; Paterson, A.; Boyer, J.L.; Nicholas, R.A.; Harden, T.K.
Biochem. J. 316, 559-568, 1996
A;Title: Molecular cloning, expression and regulatory activity of G-alpha(11)- and be
A;Reference number: S68251; MUID:96257751
A;Accession: S68251
A;Molecule type: mRNA
A;Residues: 1-1211 <WAL1>
A;Cross-references: GB:U49431; NID:g1223919; PIDN:AAC60011.1; PID:g1223920
A;Experimental source: erythrocyte
A;Accession: S72374
A;Molecule type: protein
A;Residues: 210-216,'M',218-231;244-248;284-291;345-353,'S',355-360;453-461;661-679 <
A;Experimental source: erythrocyte
R;Waldo, G.L.; Morris, A.J.; Klapper, D.G.; Harden, T.K.
Mol. Pharmacol. 40, 480-489, 1991
A;Title: Receptor- and G-protein-regulated 150-kDa avian phospholipase C: inhibition
ished by immunoreactivity and peptide sequence.
A;Reference number: A61270; MUID:92017673
A;Accession: A61270
A;Status: preliminary
A;Molecule type: protein
A;Residues: 284-292,'X',294-296,'R';568-577;751-753,'L',755-759;765-776,'T',778-780;8
A;Experimental source: erythrocyte
A;Note: 885-His was also found
C;Superfamily: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase I; 1-phospha
odiesterase domain Y homology
C;Keywords: phosphoric diester hydrolase
F;314-463/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain X
F;543-663/Domain: 1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase domain Y

  Query Match             88.6%;  Score 31;  DB 2;  Length 1211;
  Best Local Similarity   87.5%;  Pred. No. 2.5e+02;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            || |||||
Db     902 KLFLKLLK 909


RESULT   7
H82873
hypothetical protein UU580 [imported] - Ureaplasma urealyticum
C;Species: Ureaplasma urealyticum
C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 20-Aug-2000
C;Accession: H82873
R;Glass, J.I.; Lefkowitz, E.J.; Glass, J.S.; Heiner, C.R.; Chen, E.Y.; Cassell, G.H.
submitted to GenBank, February 2000
A;Description: The complete sequence of Ureaplasma urealyticum: Alternate views of a
```

A;Reference number: A82870
A;Accession: H82873
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-166 <GLA>
A;Cross-references: GB:AE002156; GB:AF222894; NID:g6899580; PIDN:AAF30994.1; GSPDB:GN001
A;Experimental source: serovar 3; biovar 1
C;Genetics:
A;Gene: UU580
A;Genetic code: SGC3

Query Match 85.7%; Score 30; DB 2; Length 166;
Best Local Similarity 75.0%; Pred. No. 58;
Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
|:|:|||
Db 60 KLILRLLK 67

RESULT 8
F90392
hypothetical protein SSO2227 [imported] - Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Date: 24-May-2001 #sequence_revision 24-May-2001 #text_change 24-May-2001
C;Accession: F90392
R;She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chan-
Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, P
arrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J.
submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
A;Reference number: A99139
A;Accession: F90392
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-191 <KUR>
A;Cross-references: GB:AE006641; NID:g13815527; PIDN:AAK42397.1; GSPDB:GN00155
C;Genetics:
A;Gene: SSO2227

Query Match 85.7%; Score 30; DB 2; Length 191;
Best Local Similarity 87.5%; Pred. No. 67;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
| ||||||
Db 36 KALLKLLK 43

RESULT 9
G71932
hypothetical protein jhp0431 - Helicobacter pylori (strain J99)
C;Species: Helicobacter pylori
A;Variety: strain J99
C;Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 11-Jan-2000
C;Accession: G71932
R;Alm, R.A.; Ling, L.S.L.; Moir, D.T.; King, B.L.; Brown, E.D.; Doig, P.C.; Smith, D.R.;
; Ives, C.; Gibson, R.; Merberg, D.; Mills, S.D.; Jiang, Q.; Taylor, D.E.; Vovis, G.F.;
Nature 397, 176-180, 1999
A;Title: Genomic sequence comparison of two unrelated isolates of the human gastric path
A;Reference number: A71800; MUID:99120557
A;Accession: G71932
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-282 <ARN>
A;Cross-references: GB:AE001477; GB:AE001439; NID:g4154961; PIDN:AAD06012.1; PID:g415496
A;Experimental source: strain J99
C;Genetics:
A;Gene: jhp0431
C;Superfamily: Helicobacter hypothetical protein HP0479

Query Match 85.7%; Score 30; DB 2; Length 282;
Best Local Similarity 75.0%; Pred. No. 98;
Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
|::|||||
Db 171 KIVLKLLK 178

RESULT 10
F71163
probable oligopeptide transport ATP-binding protein AppF - Pyrococcus horikoshii
C;Species: Pyrococcus horikoshii
C;Date: 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change 17-Mar-2000
C;Accession: F71163
R;Kawarabayasi, Y.; Sawada, M.; Horikawa, H.; Haikawa, Y.; Hino, Y.; Yamamoto, S.; Se
M.; Ohfuku, Y.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; Kushida, N.; Ogu
DNA Res. 5, 55-76, 1998
A;Title: Complete sequence and gene organization of the genome of a hyper-thermophili
A;Reference number: A71000; MUID:98344137
A;Accession: F71163
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-321 <KAW>
A;Cross-references: GB:AP000002; NID:g3236129; PIDN:BAA29595.1; PID:d1030538; PID:g32
A;Experimental source: strain OT3
A;Note: this accession replaces an interim accession for a sequence replaced by GenBa
C;Genetics:
A;Gene: PH0507
C;Superfamily: unassigned ATP-binding cassette proteins; ATP-binding cassette homolog
C;Keywords: ATP
F;27-230/Domain: ATP-binding cassette homology <ABC>

Query Match 85.7%; Score 30; DB 2; Length 321;
Best Local Similarity 75.0%; Pred. No. 1.1e+02;
Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
||:|:|||
Db 55 KLILRLLK 62

RESULT 11
A69735
phage PBSX terminase large chain xtmB - Bacillus subtilis
C;Species: Bacillus subtilis
C;Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 15-Oct-1999
C;Accession: A69735; I40415; S47115
R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Ber
C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.;
A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari,
Nature 390, 249-256, 1997
A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Gal
iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M
Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardino
A;Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mau
y, M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portete
Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanl
A;Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Se
akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiya
T.; Winters, P.; Wipat, A.; Yamamoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida
A;Authors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A.
A;Title: The complete genome sequence of the Gram-positive bacterium Bacillus subtili
A;Reference number: A69580; MUID:98044033
A;Accession: A69735
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-433 <KUN>
A;Cross-references: GB:Z99110; GB:AL009126; NID:g2633472; PIDN:CAB13115.1; PID:e11832
A;Experimental source: strain 168
R;McDonnell, G.E.; Wood, H.; Devine, K.M.; McConnell, D.J.

J. Bacteriol. 176, 5820-5830, 1994
A;Title: Genetic control of bacterial suicide: regulation of the induction of PBSX in Ba
A;Reference number: I40408; MUID:94364963
A;Accession: I40415
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-76 <RES>
A;Cross-references: EMBL:Z34287; NID:g498810; PIDN:CAA84048.1; PID:g498818
C;Genetics:
A;Gene: xtmB

Query Match 85.7%; Score 30; DB 2; Length 433;
Best Local Similarity 75.0%; Pred. No. 1.5e+02;
Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
|::|||||
Db 39 KIVLKLLK 46

RESULT 12
S15349
mdm2 protein - mouse
C;Species: Mus musculus (house mouse)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 31-Mar-2000
C;Accession: S15349
R;Fakharzadeh, S.S.; Trusko, S.P.; George, D.L.
EMBO J. 10, 1565-1569, 1991
A;Title: Tumorigenic potential associated with enhanced expression of a gene that is amp
A;Reference number: S15349; MUID:91224107
A;Accession: S15349
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-489 <FAK>
A;Cross-references: EMBL:X58876; NID:g53038; PIDN:CAA41684.1; PID:g53039
C;Genetics:
A;Gene: mdm2
C;Superfamily: human p53-binding protein mdm2

Query Match 85.7%; Score 30; DB 2; Length 489;
Best Local Similarity 100.0%; Pred. No. 1.7e+02;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 LLLKLLK 8
|||||||
Db 33 LLLKLLK 39

RESULT 13
S24354
p53-binding protein mdm2 - human
N;Alternate names: mdm-2 oncogene; mouse double minute 2 homolog; p53-associated phospho
N;Contains: p53-binding protein mdm2, splice form A
C;Species: Homo sapiens (man)
C;Date: 17-Mar-2000 #sequence_revision 17-Mar-2000 #text_change 17-Mar-2000
C;Accession: S24354; S57338; G02026
R;Oliner, J.D.; Kinzler, K.W.; Meltzer, P.S.; George, D.L.; Vogelstein, B.
Nature 358, 80-83, 1992
A;Title: Amplification of a gene encoding a p53-associated protein in human sarcomas.
A;Reference number: S24354; MUID:92310576
A;Accession: S24354
A;Molecule type: mRNA
A;Residues: 1-491 <OLI>
A;Cross-references: EMBL:Z12020; NID:g35211; PIDN:CAA78055.1; PID:g35212
R;Zauberman, A.; Flusberg, D.; Haupt, Y.; Barak, Y.; Oren, M.
Nucleic Acids Res. 23, 2584-2592, 1995
A;Title: A functional p53-responsive intronic promoter is contained within the human mdm
A;Reference number: S57338; MUID:95380270
A;Accession: S57338
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-16,'P',18-24 <ZAU>
A;Cross-references: EMBL:U28935; NID:g904033; PIDN:AAA82237.1; PID:g904034
R;Lunec, J.
submitted to the EMBL Data Library, August 1995
A;Description: Multiple alternate spliced mdm2 transcripts with loss of p53 binding d
A;Reference number: G09070
A;Accession: G02026
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-27,223-491 <LUN>
A;Cross-references: EMBL:U33199; NID:g992676; PIDN:AAA75514.1; PID:g992677
A;Experimental source: splice form A
C;Genetics:
A;Gene: GDB:MDM2
A;Cross-references: GDB:250456; OMIM:164785
A;Map position: 12q14.3-12q15
C;Superfamily: human p53-binding protein mdm2
C;Keywords: alternative splicing; oncogene; phosphoprotein
F;1-491/Product: p53-binding protein mdm-2 #status predicted <MAT1>
F;1-27,223-491/Product: p53-binding protein mdm-2, splice form A #status predicted <M

Query Match 85.7%; Score 30; DB 1; Length 491;
Best Local Similarity 100.0%; Pred. No. 1.7e+02;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 LLLKLLK 8
|||||||
Db 33 LLLKLLK 39

RESULT 14
T39031
hypothetical protein SPAC6C3.07 - fission yeast (Schizosaccharomyces pombe)
C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999
C;Accession: T39031
R;Devlin, K.; Churcher, C.M.; Barrell, B.G.; Rajandream, M.A.; Walsh, S.V.
submitted to the EMBL Data Library, February 1996
A;Reference number: Z21750
A;Accession: T39031
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-515 <DEV>
A;Cross-references: EMBL:Z69731; PIDN:CAA93619.1; GSPDB:GN00066; SPDB:SPAC6C3.07
A;Experimental source: strain 972h-; cosmid c6C3
C;Genetics:
A;Gene: SPDB:SPAC6C3.07
A;Map position: 1

Query Match 85.7%; Score 30; DB 2; Length 515;
Best Local Similarity 87.5%; Pred. No. 1.8e+02;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 KLLLKLLK 8
|||||| |
Db 49 KLLLKLTK 56

RESULT 15
T47638
hypothetical protein T5N23.150 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 20-Apr-2000
C;Accession: T47638
R;Obermaier, B.; Ottenwaelder, B.; Duchemin, D.; Zeitler, K.; Mewes, H.W.; Lemcke, K.
submitted to the Protein Sequence Database, March 2000
A;Reference number: Z24463
A;Accession: T47638
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-727 <OBE>

A;Cross-references: EMBL:AL138650
A;Experimental source: cultivar Columbia; BAC clone T5N23
C;Genetics:
A;Map position: 3
A;Introns: 56/3; 95/3
A;Note: T5N23.150

Query Match 85.7%; Score 30; DB 2; Length 727;
Best Local Similarity 100.0%; Pred. No. 2.5e+02;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy       2 LLLKLLK 8
           |||||||
Db       3 LLLKLLK 9
```

Search completed: June 17, 2002, 12:43:01
Job time: 256 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:44:46 ; Search time 21.35 Seconds
(without alignments)
14.508 Million cell updates/sec

Title: US-09-367-714A-29
Perfect score: 35
Sequence: 1 KLLLKLLK 8

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 32 | 91.4 | 238 | 1 | Y035_TREPA | O83078 treponema p |
| 2 | 31 | 88.6 | 109 | 1 | RNPA_MYCCA | P43039 mycoplasma |
| 3 | 30 | 85.7 | 433 | 1 | XTMB_BACSU | P39786 bacillus su |
| 4 | 30 | 85.7 | 487 | 1 | MDM2_CANFA | P56950 canis famil |
| 5 | 30 | 85.7 | 489 | 1 | MDM2_MOUSE | P23804 mus musculu |
| 6 | 30 | 85.7 | 491 | 1 | MDM2_HORSE | P56951 equus cabal |
| 7 | 30 | 85.7 | 491 | 1 | MDM2_HUMAN | Q00987 homo sapien |
| 8 | 30 | 85.7 | 515 | 1 | YD56_SCHPO | Q10310 schizosacch |
| 9 | 30 | 85.7 | 723 | 1 | GGA3_HUMAN | Q9nz52 homo sapien |
| 10 | 30 | 85.7 | 984 | 1 | DPOL_NPVAC | P18131 autographa |
| 11 | 30 | 85.7 | 986 | 1 | DPOL_NPVBM | P41712 bombyx mori |
| 12 | 29 | 82.9 | 172 | 1 | CAPG_STAAU | P39856 staphylococ |
| 13 | 29 | 82.9 | 229 | 1 | SOML_TETMU | Q9i9h4 tetraodon m |
| 14 | 29 | 82.9 | 231 | 1 | SOM1_SPAAU | P54863 sparus aura |
| 15 | 29 | 82.9 | 231 | 1 | SOM2_SPAAU | P79894 sparus aura |
| 16 | 29 | 82.9 | 231 | 1 | SOML_SCIOC | Q9ygk7 sciaenops o |
| 17 | 29 | 82.9 | 231 | 1 | SOML_SIGGU | Q9pwg4 siganus gut |
| 18 | 29 | 82.9 | 1941 | 1 | UBR1_KLULA | O60014 kluyveromyc |
| 19 | 28 | 80.0 | 193 | 1 | RL18_TRYBB | P50885 trypanosoma |
| 20 | 28 | 80.0 | 367 | 1 | IPL1_YEAST | P38991 saccharomyc |
| 21 | 28 | 80.0 | 375 | 1 | ASG2_BACSU | O34482 bacillus su |
| 22 | 28 | 80.0 | 424 | 1 | HE47_DROME | Q27268 drosophila |
| 23 | 28 | 80.0 | 445 | 1 | YPNP_BACSU | P54181 bacillus su |
| 24 | 28 | 80.0 | 471 | 1 | FTSA_STAAU | O07325 staphylococ |
| 25 | 28 | 80.0 | 475 | 1 | ASPA_BACSU | P26899 bacillus su |
| 26 | 28 | 80.0 | 536 | 1 | YC42_SYNY3 | P42349 synechocyst |
| 27 | 28 | 80.0 | 541 | 1 | AAAT_RABIT | O19105 oryctolagus |
| 28 | 28 | 80.0 | 553 | 1 | AAAX_MOUSE | P51912 mus musculu |
| 29 | 28 | 80.0 | 555 | 1 | YKQC_BACSU | Q45493 bacillus su |
| 30 | 28 | 80.0 | 689 | 1 | YE30_HELPY | P56185 helicobacte |
| 31 | 28 | 80.0 | 692 | 1 | YE30_HELPJ | Q9zji6 helicobacte |
| 32 | 28 | 80.0 | 1437 | 1 | DPO3_BACSU | P13267 bacillus su |
| 33 | 27 | 77.1 | 79 | 1 | Y331_SYNY3 | Q55785 synechocyst |
| 34 | 27 | 77.1 | 128 | 1 | RNPA_MYCGE | P47703 mycoplasma |
| 35 | 27 | 77.1 | 180 | 1 | YD65_SCHPO | Q10317 schizosacch |
| 36 | 27 | 77.1 | 255 | 1 | LP61_EIMTE | P15714 eimeria ten |
| 37 | 27 | 77.1 | 342 | 1 | Y755_METJA | Q58165 methanococc |
| 38 | 27 | 77.1 | 344 | 1 | ETFA_YEAST | Q12480 saccharomyc |
| 39 | 27 | 77.1 | 346 | 1 | YC89_ARCFU | O28980 archaeoglob |
| 40 | 27 | 77.1 | 362 | 1 | YAHA_ECOLI | P21514 escherichia |
| 41 | 27 | 77.1 | 386 | 1 | RMAR_HANWI | P48849 hansenula w |
| 42 | 27 | 77.1 | 431 | 1 | YQAT_BACSU | P45916 bacillus su |
| 43 | 27 | 77.1 | 434 | 1 | Y610_METJA | Q58027 methanococc |
| 44 | 27 | 77.1 | 442 | 1 | YQHB_BACSU | P54505 bacillus su |
| 45 | 27 | 77.1 | 470 | 1 | GLG1_SOLTU | Q00081 solanum tub |

ALIGNMENTS

```
RESULT   1
Y035_TREPA
ID   Y035_TREPA     STANDARD;      PRT;   238 AA.
AC   O83078;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Probable metal transport system ATP-binding protein TP0035.
GN   TP0035.
OS   Treponema pallidum.
OC   Bacteria; Spirochaetales; Spirochaetaceae; Treponema.
OX   NCBI_TaxID=160;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=NICHOLS;
RX   MEDLINE=98332770; PubMed=9665876;
RA   Fraser C.M., Norris S.J., Weinstock G.M., White O., Sutton G.G.,
RA   Dodson R., Gwinn M., Hickey E.K., Clayton R., Ketchum K.A.,
RA   Sodergren E., Hardham J.M., McLeod M.P., Salzberg S., Peterson J.,
RA   Khalak H., Richardson D., Howell J.K., Chidambaram M., Utterback T.,
RA   McDonald L., Artiach P., Bowman C., Cotton M.D., Fujii C., Garland S.,
RA   Hatch B., Horst K., Roberts K., Sandusky M., Weidman J., Smith H.O.,
RA   Venter J.C.;
RT   "Complete genome sequence of Treponema pallidum, the syphilis
RT   spirochete.";
RL   Science 281:375-388(1998).
CC   -!- FUNCTION: PART OF AN ATP-DRIVEN TRANSPORT SYSTEM
CC       TP0034/TP0035/TP0036 FOR A METAL. PROBABLY RESPONSIBLE FOR ENERGY
CC       COUPLING TO THE TRANSPORT SYSTEM.
CC   -!- SUBCELLULAR LOCATION: Inner membrane-associated (Potential).
CC   -!- SIMILARITY: BELONGS TO THE ABC TRANSPORTER FAMILY.
CC   ---------------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; AE001188; AAC65030.1; -.
DR   TIGR; TP0035; -.
DR   InterPro; IPR003439; ABC_transportr.
DR   InterPro; IPR001687; ATP_GTP_A.
DR   Pfam; PF00005; ABC_tran; 1.
DR   PROSITE; PS00211; ABC_TRANSPORTER; FALSE_NEG.
KW   Hypothetical protein; Transport; Inner membrane; ATP-binding;
KW   Complete proteome.
FT   NP_BIND      44      51       ATP (POTENTIAL).
SQ   SEQUENCE   238 AA;  26460 MW;  673E7B4882BE4D29 CRC64;


  Query Match          91.4%;  Score 32;  DB 1;  Length 238;
  Best Local Similarity   87.5%;  Pred. No. 11;
  Matches    7;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;
```

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Qy       1 KLLLKLLK 8
            ||:||||
Db      55 KLVLKLLK 62


RESULT   2
RNPA_MYCCA
ID   RNPA_MYCCA      STANDARD;      PRT;   109 AA.
AC   P43039;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Ribonuclease P protein component (EC 3.1.26.5) (RNaseP protein)
DE   (RNase P protein) (Protein C5).
GN   RNPA.
OS   Mycoplasma capricolum.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group; Mollicutes;
OC   Entomoplasmataceae.
OX   NCBI_TaxID=2095;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 27343;
RX   MEDLINE=94051609; PubMed=8233831;
RA   Miyata M., Sano K.-I., Okada R., Fukumura T.;
RT   "Mapping of replication initiation site in Mycoplasma capricolum
RT   genome by two-dimensional gel-electrophoretic analysis.";
RL   Nucleic Acids Res. 21:4816-4823(1993).
CC   -!- FUNCTION: RNaseP catalyzes the removal of the 5'-leader sequence
CC       from pre-tRNA to produce the mature 5'terminus. It can also
CC       cleave other RNA substrates such as 4.5S RNA. The protein
CC       component plays an auxiliary but essential role in vivo by binding
CC       to the 5'-leader sequence and broadening the substrate specificity
CC       of the ribozyme (By similarity).
CC   -!- CATALYTIC ACTIVITY: Endonucleolytic cleavage of RNA, removing 5'-
CC       extra-nucleotide from tRNA precursor.
CC   -!- SUBUNIT: Consists of a catalytic RNA component (M1 or rnpB) and a
CC       protein subunit (By similarity).
CC   -!- SIMILARITY: BELONGS TO THE RNPA FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D14982; BAA03619.1; -.
DR   HSSP; P25814; 1A6F.
DR   InterPro; IPR000100; Ribonuclease_P.
DR   Pfam; PF00825; Ribonuclease_P; 1.
DR   PROSITE; PS00648; RIBONUCLEASE_P; 1.
KW   Hydrolase; Nuclease; Endonuclease; tRNA processing; RNA-binding.
SQ   SEQUENCE   109 AA;  12900 MW;  ACF520A0982C0D12 CRC64;


  Query Match             88.6%;  Score 31;  DB 1;  Length 109;
  Best Local Similarity   75.0%;  Pred. No. 8.2;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            |||:||:|
Db      99 KLLIKLIK 106


RESULT   3
XTMB_BACSU
ID   XTMB_BACSU      STANDARD;      PRT;   433 AA.
AC   P39786;
DT   01-FEB-1995 (Rel. 31, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   PBSX phage terminase large subunit.
GN   XTMB.
OS   Bacillus subtilis.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group;
OC   Bacillus/Staphylococcus group; Bacillus.
OX   NCBI_TaxID=1423;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=168;
RA   Krogh S., O'Reilly M., Nolan N., Devine K.M.;
RL   Submitted (MAR-1996) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE OF 1-76 FROM N.A.
RC   STRAIN=168 / SO113;
RX   MEDLINE=94364963; PubMed=8083174;
RA   McDonnell G.E., Wood H., Devine K.M., McConnell D.J.;
RT   "Genetic control of bacterial suicide: regulation of the induction of
RT   PBSX in Bacillus subtilis.";
RL   J. Bacteriol. 176:5820-5830(1994).
CC   -!- FUNCTION: FUNCTION AS A TERMINASE.
CC   -!- SUBUNIT: DIMER OF A SMALL AND A LARGE SUBUNIT (POTENTIAL).
CC   -!- SIMILARITY: STRONG, TO B.SUBTILIS YQAT.
CC   -!- SIMILARITY: TO LARGE SUBUNIT OF B.SUBTILIS PHAGE SPP1 TERMINASE.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; Z70177; CAA94059.1; -.
DR   EMBL; Z34287; CAA84048.1; -.
DR   EMBL; Z99110; CAB13115.1; -.
DR   PIR; S47115; S47115.
DR   SubtiList; BG11000; xtmB.
KW   DNA packaging; Complete proteome.
SQ   SEQUENCE   433 AA;  51150 MW;  471FC77DFEA2CA10 CRC64;


  Query Match             85.7%;  Score 30;  DB 1;  Length 433;
  Best Local Similarity   75.0%;  Pred. No. 51;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            |::||||
Db      39 KIVLKLLK 46


RESULT   4
MDM2_CANFA
ID   MDM2_CANFA      STANDARD;      PRT;   487 AA.
AC   P56950;
DT   30-MAY-2000 (Rel. 39, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Ubiquitin-protein ligase E3 Mdm2 (EC 6.3.2.-) (P53-binding protein
DE   Mdm2) (Oncoprotein Mdm2) (Double minute 2 protein) (Cdm2).
GN   MDM2.
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   SEQUENCE OF 1-484 FROM N.A.
RX   MEDLINE=20218866; PubMed=10754200;
RA   Nasir L., Burr P.D., McFarlane S.T., Gault E., Thompson H.,
RA   Argyle D.J.;
RT   "Cloning, sequence analysis and expression of the cDNAs encoding the
RT   canine and equine homologues of the mouse double minute 2 (mdm2)
RT   proto-oncogene.";
RL   Cancer Lett. 152:9-13(2000).
RN   [2]
```

```
RP   SEQUENCE FROM N.A. (ISOFORMS MDM2 AND MDM2-ALPHA).
RX   MEDLINE=20065171; PubMed=10597303;
RA   Veldhoen N., Metcalfe S., Milner J.;
RT   "A novel exon within the mdm2 gene modulates translation initiation in
RT   vitro and disrupts the p53-binding domain of mdm2 protein.";
RL   Oncogene 18:7026-7033(1999).
CC   -!- FUNCTION: INHIBITS P53- AND P73-MEDIATED CELL CYCLE ARREST AND
CC       APOPTOSIS BY BINDING ITS TRANSCRIPTIONAL ACTIVATION DOMAIN.
CC       FUNCTIONS AS AN UBIQUITIN LIGASE E3, IN THE PRESENCE OF E1 AND E2,
CC       TOWARD P53 AND ITSELF. PERMITS THE NUCLEAR EXPORT OF P53 AND
CC       TARGETS IT FOR PROTEASOME-MEDIATED PROTEOLYSIS (BY SIMILARITY).
CC   -!- COFACTOR: ZINC IS REQUIRED FOR UBIQUITIN LIGASE E3 ACTIVITY (BY
CC       SIMILARITY).
CC   -!- SUBUNIT: BINDS P53, P73, ARF(P14), RIBOSOMAL PROTEIN L5 AND
CC       SPECIFICALLY TO RNA. CAN INTERACTS ALSO WITH RETINOBLASTOMA
CC       PROTEIN (RB), E1A-ASSOCIATED PROTEIN P300 AND THE E2F1
CC       TRANSCRIPTION FACTOR (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: NUCLEAR AND CYTOPLASMIC. EXPRESSED
CC       PREDOMINANTLY IN THE NUCLEOPLASM (BY SIMILARITY).
CC   -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; MDM2 (SHOWN HERE) AND MDM2-
CC       ALPHA; ARE PRODUCED BY ALTERNATIVE SPLICING.
CC   -!- TISSUE SPECIFICITY: MDM2-ALPHA IS PRESENT IN LYMPHOID AND
CC       TESTICULAR TISSUES.
CC   -!- DOMAIN: REGION I IS SUFFICIENT FOR BINDING P53 AND INHIBITING ITS
CC       G1 ARREST AND APOPTOSIS FUNCTIONS. IT ALSO BINDS P73 AND E2F1.
CC       REGION II CONTAINS MOST OF A CENTRAL ACIDIC REGION REQUIRED FOR
CC       INTERACTION WITH RIBOSOMAL PROTEIN L5 AND A PUTATIVE C4-TYPE ZINC
CC       FINGER. THE RING FINGER DOMAIN WHICH COORDINATES TWO MOLECULES OF
CC       ZINC INTERACTS SPECIFICALLY WITH RNA WHETHER OR NOT ZINC IS
CC       PRESENT AND MEDIATES THE HETERO-OLIGOMERIZATION WITH MDM4. IT IS
CC       ALSO ESSENTIAL FOR ITS UBIQUITIN LIGASE E3 ACTIVITY TOWARD P53 AND
CC       ITSELF (BY SIMILARITY).
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   -!- SIMILARITY: CONTAINS 1 RANBP2-TYPE ZINC FINGER.
CC   -!- SIMILARITY: BELONGS TO THE MDM2 / MDM4 FAMILY.
CC   ----------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; AF100705; AAF67833.1; -.
DR   HSSP; Q9UMT8; 1YCR.
DR   InterPro; IPR003160; MDM2.
DR   InterPro; IPR001876; Znf-RanBP.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF02279; MDM2; 1.
DR   Pfam; PF00641; zf-RanBP; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01358; ZF_RANBP2_1; 1.
DR   PROSITE; PS50199; ZF_RANBP2_2; 1.
DR   PROSITE; PS00518; ZF_RING_1; FALSE_NEG.
DR   PROSITE; PS50089; ZF_RING_2; 1.
KW   Nuclear protein; Ligase; Ubiquitin conjugation; Oncogene; Zinc;
KW   Zinc-finger; Metal-binding; Alternative splicing.
FT   DOMAIN       19    108       REGION I.
FT   DOMAIN      179    185       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   DOMAIN      190    202       NUCLEAR EXPORT SEQUENCE.
FT   DOMAIN      210    304       ARF BINDING.
FT   DOMAIN      210    215       POLY-SER.
FT   DOMAIN      242    331       REGION II.
FT   DOMAIN      243    301       ASP/GLU-RICH (ACIDIC).
FT   ZN_FING     299    328       RANBP2-TYPE.
FT   ZN_FING     434    475       RING-TYPE.
FT   DOMAIN      462    469       NUCLEOLAR LOCALIZATION SIGNAL
FT                                (POTENTIAL).
FT   VARSPLIC      1     61       MISSING (IN ISOFORM MDM2-ALPHA).
FT   CONFLICT     11     11       G -> D (IN REF. 2).
FT   CONFLICT    238    239       QD -> HH (IN REF. 2).
SQ   SEQUENCE   487 AA;  54696 MW;  60CDB470A32A8E69 CRC64;
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  Query Match             85.7%;  Score 30;  DB 1;  Length 487;
  Best Local Similarity   100.0%;  Pred. No. 57;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


RESULT   5
MDM2_MOUSE
ID   MDM2_MOUSE     STANDARD;      PRT;   489 AA.
AC   P23804; Q64330; Q61040;
DT   01-NOV-1991 (Rel. 20, Created)
DT   15-JUL-1998 (Rel. 36, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Ubiquitin-protein ligase E3 Mdm2 (EC 6.3.2.-) (P53-binding protein
DE   Mdm2) (Oncoprotein Mdm2) (Double minute 2 protein).
GN   MDM2.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORM MDM2-P90).
RX   MEDLINE=91224107; PubMed=2026149;
RA   Fakharzadeh S.S., Trusko S.P., George D.L.;
RT   "Tumorigenic potential associated with enhanced expression of a gene
RT   that is amplified in a mouse tumor cell line.";
RL   EMBO J. 10:1565-1569(1991).
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORM MDM2-P90).
RC   STRAIN=129/SV;
RX   MEDLINE=97074674; PubMed=8917101;
RA   Jones S.N., Ansari-Lari M.A., Hancock A.R., Jones W.J., Gibbs R.A.,
RA   Donehower L.A., Bradley A.;
RT   "Genomic organization of the mouse double minute 2 gene.";
RL   Gene 175:209-213(1996).
RN   [3]
RP   SEQUENCE FROM N.A. (ISOFORM MDM2-P90).
RC   STRAIN=129/SV;
RX   MEDLINE=96299630; PubMed=8660994;
RA   de Oca Luna R.M., Tabor A.D., Eberspaecher H., Hulboy D.L.,
RA   Worth L.L., Colman M.S., Finlay C.A., Lozano G.;
RT   "The organization and expression of the mdm2 gene.";
RL   Genomics 33:352-357(1996).
RN   [4]
RP   SEQUENCE FROM N.A. (ISOFORMS MDM2-P90 AND MDM2-P76).
RX   MEDLINE=99175199; PubMed=10075719;
RA   Saucedo L.J., Myers C.D., Perry M.E.;
RT   "Multiple murine double minute gene 2 (MDM2) proteins are induced by
RT   ultraviolet light.";
RL   J. Biol. Chem. 274:8161-8168(1999).
RN   [5]
RP   NUCLEOLAR LOCALIZATION SIGNAL.
RX   MEDLINE=20180080; PubMed=10713175;
RA   Weber J.D., Kuo M.-L., Bothner B., DiGiammarino E.L., Kriwacki R.W.,
RA   Roussel M.F., Sherr C.J.;
RT   "Cooperative signals governing ARF-mdm2 interaction and nucleolar
RT   localization of the complex.";
RL   Mol. Cell. Biol. 20:2517-2528(2000).
RN   [6]
RP   PHOSPHORYLATION BY ATM.
RX   MEDLINE=20079591; PubMed=10611322;
RA   Khosravi R., Maya R., Gottlieb T., Oren M., Shiloh Y., Shkedy D.;
RT   "Rapid ATM-dependent phosphorylation of MDM2 precedes p53 accumulation
RT   in response to DNA damage.";
RL   Proc. Natl. Acad. Sci. U.S.A. 96:14973-14977(1999).
CC   -!- FUNCTION: INHIBITS P53-AND P73-MEDIATED CELL CYCLE ARREST AND
CC       APOPTOSIS BY BINDING ITS TRANSCRIPTIONAL ACTIVATION DOMAIN.
CC       FUNCTIONS AS AN UBIQUITIN LIGASE E3, IN THE PRESENCE OF E1 AND E2,
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CC       TOWARD P53 AND ITSELF. PERMITS THE NUCLEAR EXPORT OF P53 AND
CC       TARGETS IT FOR PROTEASOME-MEDIATED PROTEOLYSIS.
CC   -!- COFACTOR: ZINC IS REQUIRED FOR UBIQUITIN LIGASE E3 ACTIVITY.
CC   -!- SUBUNIT: BINDS P53, P73, ARF(P14), RIBOSOMAL PROTEIN L5 AND
CC       SPECIFICALLY TO RNA. CAN INTERACTS ALSO WITH RETINOBLASTOMA
CC       PROTEIN (RB), E1A-ASSOCIATED PROTEIN P300 AND THE E2F1
CC       TRANSCRIPTION FACTOR.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR AND CYTOPLASMIC. EXPRESSED
CC       PREDOMINANTLY IN THE NUCLEOPLASM. INTERACTION WITH ARF(P14)
CC       RESULTS IN THE LOCALIZATION OF BOTH PROTEINS TO THE NUCLEOLUS. THE
CC       NUCLEOLAR LOCALIZATION SIGNALS IN BOTH ARF(P14) AND MDM2 MAY BE
CC       NECESSARY TO ALLOW EFFICIENT NUCLEOLAR LOCALIZATION OF BOTH
CC       PROTEINS.
CC   -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; MDM2-P90 (SHOWN HERE) AND MDM2-
CC       P76; ARE PRODUCED BY ALTERNATIVE SPLICING AND ALSO BY ALTERNATIVE
CC       INITIATION.
CC   -!- TISSUE SPECIFICITY: UBIQUITOUSLY EXPRESSED AT LOW-LEVEL THROUGHOUT
CC       EMBRYO DEVELOPMENT AND IN ADULT TISSUES. MDM2-P90 IS MUCH MORE
CC       ABUNDANT THAN MDM2-P76 IN TESTIS, BRAIN, HEART, AND KIDNEY, BUT IN
CC       THE THYMUS, SPLEEN, AND INTESTINE, THE LEVELS OF THE MDM2 PROTEINS
CC       ARE ROUGHLY EQUIVALENT.
CC   -!- INDUCTION: BY UV LIGHT.
CC   -!- DOMAIN: REGION I IS SUFFICIENT FOR BINDING P53 AND INHIBITING ITS
CC       G1 ARREST AND APOPTOSIS FUNCTIONS. IT ALSO BINDS P73 AND E2F1.
CC       REGION II CONTAINS MOST OF A CENTRAL ACIDIC REGION REQUIRED FOR
CC       INTERACTION WITH RIBOSOMAL PROTEIN L5 AND A PUTATIVE C4-TYPE ZINC
CC       FINGER. THE RING FINGER DOMAIN WHICH COORDINATES TWO MOLECULES OF
CC       ZINC INTERACTS SPECIFICALLY WITH RNA WHETHER OR NOT ZINC IS
CC       PRESENT AND MEDIATES THE HETERO-OLIGOMERIZATION WITH MDM4. IT IS
CC       ALSO ESSENTIAL FOR ITS UBIQUITIN LIGASE E3 ACTIVITY TOWARD P53 AND
CC       ITSELF.
CC   -!- PTM: PHOSPHORYLATED IN RESPONSE TO IONIZING RADIATION IN AN ATM-
CC       DEPENDENT MANNER.
CC   -!- DISEASE: THE GENE FOR THIS PROTEIN IS AMPLIFIED IN A MOUSE TUMOR
CC       CELL LINE.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   -!- SIMILARITY: CONTAINS 1 RANBP2-TYPE ZINC FINGER.
CC   -!- SIMILARITY: BELONGS TO THE MDM2 / MDM4 FAMILY.
CC   ---------------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------------
DR   EMBL; X58876; CAA41684.1; -.
DR   EMBL; U40145; AAA91167.1; -.
DR   EMBL; U47944; AAB09030.1; -.
DR   EMBL; U47935; AAB09030.1; JOINED.
DR   EMBL; U47936; AAB09030.1; JOINED.
DR   EMBL; U47937; AAB09030.1; JOINED.
DR   EMBL; U47938; AAB09030.1; JOINED.
DR   EMBL; U47939; AAB09030.1; JOINED.
DR   EMBL; U47940; AAB09030.1; JOINED.
DR   EMBL; U47941; AAB09030.1; JOINED.
DR   EMBL; U47942; AAB09030.1; JOINED.
DR   EMBL; U47943; AAB09030.1; JOINED.
DR   EMBL; U47934; AAB09031.1; -.
DR   PIR; S15349; S15349.
DR   HSSP; Q9UMT8; 1YCR.
DR   MGD; MGI:96952; Mdm2.
DR   InterPro; IPR003160; MDM2.
DR   InterPro; IPR001876; Znf-RanBP.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF02279; MDM2; 1.
DR   Pfam; PF00641; zf-RanBP; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01358; ZF_RANBP2_1; 1.
DR   PROSITE; PS50199; ZF_RANBP2_2; 1.
DR   PROSITE; PS00518; ZF_RING_1; FALSE_NEG.
DR   PROSITE; PS50089; ZF_RING_2; 1.
KW   Nuclear protein; Ligase; Ubiquitin conjugation; Oncogene;
KW   Alternative splicing; Alternative initiation; Zinc; Zinc-finger;
KW   Metal-binding; Phosphorylation.
FT   MOD_RES      1      1       BLOCKED.
FT   DOMAIN       19     108     REGION I.
FT   DOMAIN       176    182     NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   DOMAIN       183    195     NUCLEAR EXPORT SEQUENCE.
FT   DOMAIN       203    213     POLY-SER.
FT   DOMAIN       208    302     ARF BINDING.
FT   DOMAIN       240    329     REGION II.
FT   DOMAIN       221    299     ASP/GLU-RICH (ACIDIC).
FT   ZN_FING      297    326     RANBP2-TYPE.
FT   ZN_FING      436    477     RING-TYPE.
FT   DOMAIN       464    471     NUCLEOLAR LOCALIZATION SIGNAL
FT                               (POTENTIAL).
FT   CONFLICT     203    203     S -> T (IN REF. 1).
FT   CONFLICT     419    419     D -> H (IN REF. 1).
FT   CONFLICT     486    486     S -> T (IN REF. 3).
SQ   SEQUENCE   489 AA;  54543 MW;  4ABF489E92038DF4 CRC64;


  Query Match             85.7%;  Score 30;  DB 1;  Length 489;
  Best Local Similarity   100.0%;  Pred. No. 58;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


RESULT   6
MDM2_HORSE
ID   MDM2_HORSE     STANDARD;      PRT;   491 AA.
AC   P56951;
DT   30-MAY-2000 (Rel. 39, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Ubiquitin-protein ligase E3 Mdm2 (EC 6.3.2.-) (P53-binding protein
DE   Mdm2) (Oncoprotein Mdm2) (Double minute 2 protein) (Edm2).
GN   MDM2.
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20218866; PubMed=10754200;
RA   Nasir L., Burr P.D., McFarlane S.T., Gault E., Thompson H.,
RA   Argyle D.J.;
RT   "Cloning, sequence analysis and expression of the cDNAs encoding the
RT   canine and equine homologues of the mouse double minute 2 (mdm2)
RT   proto-oncogene.";
RL   Cancer Lett. 152:9-13(2000).
CC   -!- FUNCTION: INHIBITS P53- AND P73-MEDIATED CELL CYCLE ARREST AND
CC       APOPTOSIS BY BINDING ITS TRANSCRIPTIONAL ACTIVATION DOMAIN.
CC       FUNCTIONS AS AN UBIQUITIN LIGASE E3, IN THE PRESENCE OF E1 AND E2,
CC       TOWARD P53 AND ITSELF. PERMITS THE NUCLEAR EXPORT OF P53 AND
CC       TARGETS IT FOR PROTEASOME-MEDIATED PROTEOLYSIS (BY SIMILARITY).
CC   -!- COFACTOR: ZINC IS REQUIRED FOR UBIQUITIN LIGASE E3 ACTIVITY (BY
CC       SIMILARITY).
CC   -!- SUBUNIT: BINDS P53, P73, ARF(P14), RIBOSOMAL PROTEIN L5 AND
CC       SPECIFICALLY TO RNA. CAN INTERACTS ALSO WITH RETINOBLASTOMA
CC       PROTEIN (RB), E1A-ASSOCIATED PROTEIN P300 AND THE E2F1
CC       TRANSCRIPTION FACTOR (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: NUCLEAR AND CYTOPLASMIC. EXPRESSED
CC       PREDOMINANTLY IN THE NUCLEOPLASM (BY SIMILARITY).
CC   -!- DOMAIN: REGION I IS SUFFICIENT FOR BINDING P53 AND INHIBITING ITS
CC       G1 ARREST AND APOPTOSIS FUNCTIONS. IT ALSO BINDS P73 AND E2F1.
CC       REGION II CONTAINS MOST OF A CENTRAL ACIDIC REGION REQUIRED FOR
CC       INTERACTION WITH RIBOSOMAL PROTEIN L5 AND A PUTATIVE C4-TYPE ZINC
CC       FINGER. THE RING FINGER DOMAIN WHICH COORDINATES TWO MOLECULES OF
CC       ZINC INTERACTS SPECIFICALLY WITH RNA WHETHER OR NOT ZINC IS
CC       PRESENT AND MEDIATES THE HETERO-OLIGOMERIZATION WITH MDM4. IT IS
```

```
CC       ALSO ESSENTIAL FOR ITS UBIQUITIN LIGASE E3 ACTIVITY TOWARD P53 AND
CC       ITSELF (BY SIMILARITY).
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   -!- SIMILARITY: CONTAINS 1 RANBP2-TYPE ZINC FINGER.
CC   -!- SIMILARITY: BELONGS TO THE MDM2 / MDM4 FAMILY.
CC   ----------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; AF121140; AAF28866.1; -.
DR   HSSP; Q9UMT8; 1YCR.
DR   InterPro; IPR003160; MDM2.
DR   InterPro; IPR001876; Znf-RanBP.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF02279; MDM2; 1.
DR   Pfam; PF00641; zf-RanBP; 1.
DR   SMART; SM00184; RING; 1.
DR   PROSITE; PS01358; ZF_RANBP2_1; 1.
DR   PROSITE; PS50199; ZF_RANBP2_2; 1.
DR   PROSITE; PS00518; ZF_RING_1; FALSE_NEG.
DR   PROSITE; PS50089; ZF_RING_2; 1.
KW   Nuclear protein; Ligase; Ubiquitin conjugation; Oncogene; Zinc;
KW   Zinc-finger; Metal-binding.
FT   DOMAIN       19    108       REGION I.
FT   DOMAIN      179    185       NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT   DOMAIN      190    202       NUCLEAR EXPORT SEQUENCE.
FT   DOMAIN      210    304       ARF BINDING.
FT   DOMAIN      210    215       POLY-SER.
FT   DOMAIN      242    331       REGION II.
FT   DOMAIN      243    301       ASP/GLU-RICH (ACIDIC).
FT   ZN_FING     299    328       RANBP2-TYPE.
FT   ZN_FING     438    479       RING-TYPE.
FT   DOMAIN      466    473       NUCLEOLAR LOCALIZATION SIGNAL
FT                                (POTENTIAL).
SQ   SEQUENCE   491 AA;  55279 MW;  641E033D5C1DEC39 CRC64;


  Query Match             85.7%;  Score 30;  DB 1;  Length 491;
  Best Local Similarity   100.0%;  Pred. No. 58;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


RESULT   7
MDM2_HUMAN
ID   MDM2_HUMAN     STANDARD;      PRT;   491 AA.
AC   Q00987; Q13226; Q13297; Q13298; Q13299; Q13300; Q13301; Q9UGI3;
AC   Q9UMT8;
DT   01-APR-1993 (Rel. 25, Created)
DT   01-APR-1993 (Rel. 25, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Ubiquitin-protein ligase E3 Mdm2 (EC 6.3.2.-) (P53-binding protein
DE   Mdm2) (Oncoprotein Mdm2) (Double minute 2 protein) (Hdm2).
GN   MDM2.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORM MDM2).
RX   MEDLINE=92310576; PubMed=1614537;
RA   Oliner J.D., Kinzler K.W., Meltzer P.S., George D.L.,
RA   Vogelstein B.;
RT   "Amplification of a gene encoding a p53-associated protein in human
RT   sarcomas.";
RL   Nature 358:80-83(1992).
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORMS MDM2-A; -B; -C; -D AND -E).
RC   TISSUE=Ovarian carcinoma;
RX   MEDLINE=96313107; PubMed=8705862;
RA   Sigalas I., Calvert A.H., Anderson J.J., Neal D.E., Lunec J.;
RT   "Alternatively spliced mdm2 transcripts with loss of p53 binding
RT   domain sequences: transforming ability and frequent detection in human
RT   cancer.";
RL   Nat. Med. 2:912-917(1996).
RN   [3]
RP   SEQUENCE FROM N.A. (ISOFORM MDM2-ALPHA).
RX   MEDLINE=20065171; PubMed=10597303;
RA   Veldhoen N., Metcalfe S., Milner J.;
RT   "A novel exon within the mdm2 gene modulates translation initiation in
RT   vitro and disrupts the p53-binding domain of mdm2 protein.";
RL   Oncogene 18:7026-7033(1999).
RN   [4]
RP   SEQUENCE FROM N.A. (ISOFORM MDM2).
RC   TISSUE=Muscle;
RA   Strausberg R.;
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
RN   [5]
RP   SEQUENCE OF 6-491 FROM N.A. (ISOFORM MDM2-A1).
RA   Liang H., Atkins H., Abdel-Fattah R., Suaeyun R., Lunec J.;
RT   "Genomic Organisation of the Human MDM2 Oncogene and Relationship to
RT   its Alternatively Spliced mRNA's.";
RL   Submitted (NOV-1999) to the EMBL/GenBank/DDBJ databases.
RN   [6]
RP   SEQUENCE OF 1-24 FROM N.A.
RX   MEDLINE=95380270; PubMed=7651818;
RA   Zauberman A., Flusberg D., Haupt Y., Barak Y., Oren M.;
RT   "A functional p53-responsive intronic promoter is contained within
RT   the human mdm2 gene.";
RL   Nucleic Acids Res. 23:2584-2592(1995).
RN   [7]
RP   SEQUENCE OF 1-9 FROM N.A.
RX   MEDLINE=97413643; PubMed=9270029;
RA   Landers J.E., Cassel S.L., George D.L.;
RT   "Translational enhancement of mdm2 oncogene expression in human tumor
RT   cells containing a stabilized wild-type p53 protein.";
RL   Cancer Res. 57:3562-3568(1997).
RN   [8]
RP   SEQUENCE OF 301-481 FROM N.A.
RX   MEDLINE=20542019; PubMed=11087894;
RA   Taubert H., Kappler M., Meye A., Bartel F., Schlott T.,
RA   Lautenschlaeger C., Bache M., Schmidt H., Wuerl P.;
RT   "A MboII polymorphism in exon 11 of the human MDM2 gene occuring in
RT   normal blood donors and in soft tissue sarcoma patients: an
RT   indication for an increased cancer susceptibility?";
RL   Mutat. Res. 456:39-44(2000).
RN   [9]
RP   MUTAGENESIS OF CYS-464.
RX   MEDLINE=98111004; PubMed=9450543;
RA   Honda R., Tanaka H., Yasuda H.;
RT   "Oncoprotein MDM2 is a ubiquitin ligase E3 for tumor suppressor p53.";
RL   FEBS Lett. 420:25-27(1997).
RN   [10]
RP   MUTAGENESIS OF CYS-449.
RX   MEDLINE=20190101; PubMed=10723139;
RA   Honda R., Yasuda H.;
RT   "Activity of MDM2, a ubiquitin ligase, toward p53 or itself is
RT   dependent on the RING finger domain of the ligase.";
RL   Oncogene 19:1473-1476(2000).
RN   [11]
RP   MUTAGENESIS.
RX   MEDLINE=20187618; PubMed=10722742;
RA   Fang S., Jensen J.P., Ludwig R.L., Vousden K.H., Weissman A.M.;
RT   "Mdm2 is a RING finger-dependent ubiquitin protein ligase for itself
RT   and p53.";
RL   J. Biol. Chem. 275:8945-8951(2000).
RN   [12]
RP   MUTAGENESIS OF CYS-441 AND CYS-478.
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RX   MEDLINE=20076498; PubMed=10608892;
RA   Sharp D.A., Kratowicz S.A., Sank M.J., George D.L.;
RT   "Stabilization of the MDM2 oncoprotein by interaction with the
RT   structurally related MDMX protein.";
RL   J. Biol. Chem. 274:38189-38196(1999).
RN   [13]
RP   NUCLEOLAR LOCALIZATION SIGNAL.
RX   MEDLINE=20173879; PubMed=10707090;
RA   Lohrum M.A.E., Ashcroft M., Kubbutat M.H.G., Vousden K.H.;
RT   "Identification of a cryptic nucleolar-localization signal in MDM2.";
RL   Nat. Cell Biol. 2:179-181(2000).
RN   [14]
RP   PHOSPHORYLATION BY ATM.
RX   MEDLINE=20079591; PubMed=10611322;
RA   Khosravi R., Maya R., Gottlieb T., Oren M., Shiloh Y., Shkedy D.;
RT   "Rapid ATM-dependent phosphorylation of MDM2 precedes p53 accumulation
RT   in response to DNA damage.";
RL   Proc. Natl. Acad. Sci. U.S.A. 96:14973-14977(1999).
RN   [15]
RP   X-RAY CRYSTALLOGRAPHY (2.6 ANGSTROMS) OF 25-109 IN COMPLEX WITH P53.
RX   MEDLINE=97081050; PubMed=8875929;
RA   Kussie P.H., Gorina S., Marechal V., Elenbaas B., Moreau J.,
RA   Levine A.J., Pavletich N.P.;
RT   "Structure of the MDM2 oncoprotein bound to the p53 tumor suppressor
RT   transactivation domain.";
RL   Science 274:948-953(1996).
CC   -!- FUNCTION: INHIBITS P53- AND P73-MEDIATED CELL CYCLE ARREST AND
CC       APOPTOSIS BY BINDING ITS TRANSCRIPTIONAL ACTIVATION DOMAIN.
CC       FUNCTIONS AS AN UBIQUITIN LIGASE E3, IN THE PRESENCE OF E1 AND E2,
CC       TOWARD P53 AND ITSELF. PERMITS THE NUCLEAR EXPORT OF P53 AND
CC       TARGETS IT FOR PROTEASOME-MEDIATED PROTEOLYSIS.
CC   -!- COFACTOR: ZINC IS REQUIRED FOR UBIQUITIN LIGASE E3 ACTIVITY.
CC   -!- SUBUNIT: BINDS P53, P73, ARF(P14), RIBOSOMAL PROTEIN L5 AND
CC       SPECIFICALLY TO RNA. CAN INTERACTS ALSO WITH RETINOBLASTOMA
CC       PROTEIN (RB), E1A-ASSOCIATED PROTEIN P300 AND THE E2F1
CC       TRANSCRIPTION FACTOR.
CC   -!- SUBCELLULAR LOCATION: NUCLEAR AND CYTOPLASMIC. EXPRESSED
CC       PREDOMINANTLY IN THE NUCLEOPLASM. INTERACTION WITH ARF(P14)
CC       RESULTS IN THE LOCALIZATION OF BOTH PROTEINS TO THE NUCLEOLUS. THE
CC       NUCLEOLAR LOCALIZATION SIGNALS IN BOTH ARF(P14) AND MDM2 MAY BE
CC       NECESSARY TO ALLOW EFFICIENT NUCLEOLAR LOCALIZATION OF BOTH
CC       PROTEINS.
CC   -!- ALTERNATIVE PRODUCTS: 8 ISOFORMS; MDM2 (SHOWN HERE), MDM2-A, MDM2-
CC       A1, MDM2-B, MDM2-C, MDM2-D, MDM2-E AND MDM2-ALPHA; ARE PRODUCED BY
CC       ALTERNATIVE SPLICING.
CC   -!- TISSUE SPECIFICITY: UBIQUITOUS. ISOFORMS MDM2-A, -B, -C, -D AND -E
CC       ARE OBSERVED IN A RANGE OF HUMAN CANCERS BUT ABSENT IN NORMAL
CC       TISSUES.
CC   -!- INDUCTION: BY DNA DAMAGE.
CC   -!- DOMAIN: REGION I IS SUFFICIENT FOR BINDING P53 AND INHIBITING ITS
CC       G1 ARREST AND APOPTOSIS FUNCTIONS. IT ALSO BINDS P73 AND E2F1.
CC       REGION II CONTAINS MOST OF A CENTRAL ACIDIC REGION REQUIRED FOR
CC       INTERACTION WITH RIBOSOMAL PROTEIN L5 AND A PUTATIVE C4-TYPE ZINC
CC       FINGER. THE RING FINGER DOMAIN WHICH COORDINATES TWO MOLECULES OF
CC       ZINC INTERACTS SPECIFICALLY WITH RNA WHETHER OR NOT ZINC IS
CC       PRESENT AND MEDIATES THE HETERO-OLIGOMERIZATION WITH MDM4. IT IS
CC       ALSO ESSENTIAL FOR ITS UBIQUITIN LIGASE E3 ACTIVITY TOWARD P53 AND
CC       ITSELF.
CC   -!- PTM: PHOSPHORYLATED IN RESPONSE TO IONIZING RADIATION IN AN ATM-
CC       DEPENDENT MANNER.
CC   -!- DISEASE: SEEMS TO BE AMPLIFIED IN CERTAIN TUMORS (INCLUDING SOFT
CC       TISSUE SARCOMAS, OSTEOSARCOMAS AND GLIOMAS). A HIGHER FREQUENCY OF
CC       SPLICE VARIANTS LACKING P53 BINDING DOMAIN SEQUENCES WAS FOUND IN
CC       LATE-STAGE AND HIGH-GRADE OVARIAN AND BLADDER CARCINOMAS. FOUR OF
CC       THE SPLICE VARIANTS SHOW LOSS OF P53 BINDING.
CC   -!- MISCELLANEOUS: MDM2 RING FINGER MUTATIONS THAT FAILED TO
CC       UBIQUITINATE P53 IN VITRO DID NOT TARGET P53 FOR DEGRADATION WHEN
CC       EXPRESSED IN CELLS.
CC   -!- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC   -!- SIMILARITY: CONTAINS 1 RANBP2-TYPE ZINC FINGER.
CC   -!- SIMILARITY: BELONGS TO THE MDM2 / MDM4 FAMILY.
CC   ---------------------------------------------------------------------
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M92424; AAA60568.1; -.
DR   EMBL; Z12020; CAA78055.1; -.
DR   EMBL; U33199; AAA75514.1; -.
DR   EMBL; U33200; AAA75515.1; -.
DR   EMBL; U33201; AAA75516.1; -.
DR   EMBL; U33202; AAA75517.1; -.
DR   EMBL; U33203; AAA75518.1; -.
DR   EMBL; BC009893; AAH09893.1; -.
DR   EMBL; U28935; AAA82237.1; -.
DR   EMBL; U39736; AAA82061.1; -.
DR   EMBL; AJ251943; CAB64448.1; -.
DR   PIR; S24354; S24354.
DR   PDB; 1YCR; 19-NOV-97.
DR   MIM; 164785; -.
DR   InterPro; IPR003160; MDM2.
DR   InterPro; IPR001876; Znf-RanBP.
DR   InterPro; IPR001841; Znf_ring.
DR   Pfam; PF02279; MDM2; 1.
DR   Pfam; PF00641; zf-RanBP; 1.
DR   PROSITE; PS01358; ZF_RANBP2_1; 1.
DR   PROSITE; PS50199; ZF_RANBP2_2; 1.
DR   PROSITE; PS00518; ZF_RING_1; FALSE_NEG.
DR   PROSITE; PS50089; ZF_RING_2; 1.
KW   Nuclear protein; Ligase; Ubiquitin conjugation; Oncogene;
KW   Alternative splicing; Zinc; Zinc-finger; Metal-binding;
KW   Phosphorylation; 3D-structure.
FT   DOMAIN       19    108       REGION I.

  Query Match             85.7%;  Score 30;  DB 1;  Length 491;
  Best Local Similarity   100.0%;  Pred. No. 58;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


RESULT   8
YD56_SCHPO
ID   YD56_SCHPO     STANDARD;      PRT;   515 AA.
AC   Q10310;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Hypothetical 59.0 kDa protein C6C3.06 in chromosome I.
GN   SPAC6C3.06.
OS   Schizosaccharomyces pombe (Fission yeast).
OC   Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
OC   Schizosaccharomycetales; Schizosaccharomycetaceae;
OC   Schizosaccharomyces.
OX   NCBI_TaxID=4896;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=972;
RA   Devlin K., Churcher C.M., Barrell B.G., Rajandream M.A., Walsh S.V.;
RL   Submitted (FEB-1996) to the EMBL/GenBank/DDBJ databases.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; Z69731; CAA93619.1; -.
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KW   Hypothetical protein.
SQ   SEQUENCE   515 AA;  59035 MW;  B0466464840B3F06 CRC64;


  Query Match             85.7%;  Score 30;  DB 1;  Length 515;
  Best Local Similarity   87.5%;  Pred. No. 61;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          |||||| |
Db     49 KLLLKLTK 56


RESULT   9
GGA3_HUMAN
ID   GGA3_HUMAN     STANDARD;      PRT;   723 AA.
AC   Q9NZ52; Q9UJY3; Q15017;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   ADP-ribosylation factor binding protein GGA3 (Golgi-localized, gamma
DE   ear-containing, ARF-binding protein 3).
GN   GGA3 OR KIAA0154.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A. (LONG AND SHORT ISOFORMS).
RC   TISSUE=Heart;
RX   MEDLINE=20211638; PubMed=10747089;
RA   Dell'Angelica E.C., Puertollano R., Mullins C., Aguilar R.C.,
RA   Vargas J.D., Hartnell L.M., Bonifacino J.S.;
RT   "GGAs: a family of ADP ribosylation factor-binding proteins related to
RT   adaptors and associated with the Golgi complex.";
RL   J. Cell Biol. 149:81-94(2000).
RN   [2]
RP   SEQUENCE FROM N.A. (SHORT ISOFORM).
RX   MEDLINE=20214818; PubMed=10749927;
RA   Boman A.L., Zhang C.-J., Zhu X., Kahn R.A.;
RT   "A family of ADP-ribosylation factor effectors that can alter
RT   transport through the trans-Golgi.";
RL   Mol. Biol. Cell 11:1241-1255(2000).
RN   [3]
RP   SEQUENCE FROM N.A. (SHORT ISOFORM).
RC   TISSUE=Bone marrow;
RX   MEDLINE=96127530; PubMed=8590280;
RA   Nagase T., Seki N., Tanaka A., Ishikawa K.-I., Nomura N.;
RT   "Prediction of the coding sequences of unidentified human genes. IV.
RT   The coding sequences of 40 new genes (KIAA0121-KIAA0160) deduced by
RT   analysis of cDNA clones from human cell line KG-1.";
RL   DNA Res. 2:167-174(1995).
CC   -!- FUNCTION: MAY PLAY A ROLE IN THE REGULATION OF MEMBRANE TRAFFIC
CC       THROUGH THE TRANS-GOLGI NETWORK.
CC   -!- SUBUNIT: BINDS TO ARF1.
CC   -!- SUBCELLULAR LOCATION: TRANS-GOLGI NETWORK.
CC   -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; A LONG FORM (SHOWN HERE) AND A
CC       SHORT FORM; ARE PRODUCED BY ALTERNATIVE SPLICING.
CC   -!- TISSUE SPECIFICITY: UBIQUITOUSLY EXPRESSED.
CC   -!- SIMILARITY: CONTAINS 1 GAMMA-ADAPTIN C-TERMINAL DOMAIN.
CC   -!- SIMILARITY: CONTAINS 1 VHS DOMAIN.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF219138; AAF42848.1; -.
DR   EMBL; AF190864; AAF05709.1; -.
DR   EMBL; AF219139; AAF42849.1; -.
DR   EMBL; D63876; BAA09926.1; ALT_INIT.
DR   InterPro; IPR001121; G_adapt_C.
DR   InterPro; IPR002014; HRS.
DR   Pfam; PF00790; VHS; 1.
DR   ProDom; PD003686; HRS; 1.
DR   ProDom; PD021457; G_adapt_C; 1.
DR   SMART; SM00288; VHS; 1.
DR   PROSITE; PS50179; VHS; 1.
KW   Protein transport; Golgi stack; Coiled coil; Alternative splicing.
FT   DOMAIN        1    313       BINDS TO ARF1 (IN LONG ISOFORM).
FT   DOMAIN       16    146       VHS.
FT   DOMAIN      188    232       COILED COIL (POTENTIAL).
FT   DOMAIN      357    360       POLY-PRO.
FT   DOMAIN      453    457       POLY-SER.
FT   DOMAIN      624    629       POLY-VAL.
FT   DOMAIN      598    709       GAMMA-ADAPTIN C-TERMINAL.
FT   VARSPLIC     68    100       MISSING (IN SHORT ISOFORM).
SQ   SEQUENCE   723 AA;  78314 MW;  4F80D6032239168C CRC64;


  Query Match             85.7%;  Score 30;  DB 1;  Length 723;
  Best Local Similarity   87.5%;  Pred. No. 85;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          ||| ||||
Db    176 KLLAKLLK 183


RESULT  10
DPOL_NPVAC
ID   DPOL_NPVAC     STANDARD;      PRT;   984 AA.
AC   P18131;
DT   01-NOV-1990 (Rel. 16, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   15-DEC-1998 (Rel. 37, Last annotation update)
DE   DNA polymerase (EC 2.7.7.7).
GN   POL.
OS   Autographa californica nuclear polyhedrosis virus (AcMNPV).
OC   Viruses; dsDNA viruses, no RNA stage; Baculoviridae;
OC   Nucleopolyhedrovirus.
OX   NCBI_TaxID=46015;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=L1;
RX   MEDLINE=89073763; PubMed=3059678;
RA   Tomalski M.D., Wu J.G., Miller L.K.;
RT   "The location, sequence, transcription, and regulation of a
RT   baculovirus DNA polymerase gene.";
RL   Virology 167:591-600(1988).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C6;
RX   MEDLINE=94303173; PubMed=8030224;
RA   Ayres M.D., Howard S.C., Kuzio J., Lopez-Ferber M., Possee R.D.;
RT   "The complete DNA sequence of Autographa californica nuclear
RT   polyhedrosis virus.";
RL   Virology 202:586-605(1994).
CC   -!- CATALYTIC ACTIVITY: N deoxynucleoside triphosphate = N diphosphate
CC       + {DNA}(N).
CC   -!- SIMILARITY: BELONGS TO DNA POLYMERASE TYPE-B FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M20744; AAA46692.1; -.
DR   EMBL; L22858; AAA66695.1; -.
DR   PIR; A31832; DJNVCP.
```

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DR   InterPro; IPR002064; DNA_pol_B.
DR   Pfam; PF00136; DNA_pol_B; 1.
DR   Pfam; PF03104; DNA_pol_B_exo; 1.
DR   PRINTS; PR00106; DNAPOLB.
DR   SMART; SM00486; POLBc; 1.
DR   PROSITE; PS00116; DNA_POLYMERASE_B; 1.
KW   Transferase; DNA-directed DNA polymerase; DNA replication;
KW   DNA-binding; Early protein.
FT   DOMAIN      724    727       POLY-LYS.
FT   DOMAIN      946    960       POLY-ASP.
FT   CONFLICT    830    830       R -> W (IN REF. 1).
SQ   SEQUENCE   984 AA;  114307 MW;  156ABB6BA1B45A21 CRC64;


  Query Match             85.7%;  Score 30;  DB 1;  Length 984;
  Best Local Similarity   100.0%;  Pred. No. 1.1e+02;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLKLL 7
          |||||||
Db    569 KLLLKLL 575


RESULT  11
DPOL_NPVBM
ID   DPOL_NPVBM     STANDARD;      PRT;   986 AA.
AC   P41712; O92430;
DT   01-NOV-1995 (Rel. 32, Created)
DT   15-DEC-1998 (Rel. 37, Last sequence update)
DT   15-DEC-1998 (Rel. 37, Last annotation update)
DE   DNA polymerase (EC 2.7.7.7).
GN   POL.
OS   Bombyx mori nuclear polyhedrosis virus (BmNPV).
OC   Viruses; dsDNA viruses, no RNA stage; Baculoviridae;
OC   Nucleopolyhedrovirus.
OX   NCBI_TaxID=10458;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=95133178; PubMed=7831799;
RA   Chaeychomsri S., Ikeda M., Kobayashi M.;
RT   "Nucleotide sequence and transcriptional analysis of the DNA
RT   polymerase gene of Bombyx mori nuclear polyhedrosis virus.";
RL   Virology 206:435-447(1995).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=T3;
RA   Gomi S., Majima K., Maeda S.;
RT   "Sequence analysis of the genome of Bombyx mori
RT   nucleopolyhedrovirus.";
RL   Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- CATALYTIC ACTIVITY: N deoxynucleoside triphosphate = N diphosphate
CC       + {DNA}(N).
CC   -!- SIMILARITY: BELONGS TO DNA POLYMERASE TYPE-B FAMILY.
CC   ---------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; D16231; BAA03756.1; -.
DR   EMBL; L33180; AAC63738.1; -.
DR   InterPro; IPR002064; DNA_pol_B.
DR   Pfam; PF00136; DNA_pol_B; 1.
DR   Pfam; PF03104; DNA_pol_B_exo; 1.
DR   PRINTS; PR00106; DNAPOLB.
DR   SMART; SM00486; POLBc; 1.
DR   PROSITE; PS00116; DNA_POLYMERASE_B; 1.
KW   Transferase; DNA-directed DNA polymerase; DNA replication;
KW   DNA-binding; Early protein.
FT   DOMAIN      724    727       POLY-LYS.
FT   DOMAIN      947    951       POLY-ASP.
FT   DOMAIN      954    959       POLY-ASP.
FT   CONFLICT    116    116       A -> S (IN REF. 1).
FT   CONFLICT    245    245       H -> Y (IN REF. 1).
FT   CONFLICT    250    250       H -> Y (IN REF. 1).
FT   CONFLICT    258    258       V -> I (IN REF. 1).
FT   CONFLICT    478    479       TA -> AG (IN REF. 1).
FT   CONFLICT    941    941       S -> G (IN REF. 1).
FT   CONFLICT    952    952       N -> NDN (IN REF. 1).
SQ   SEQUENCE   986 AA;  114418 MW;  503E39F4A0BCC125 CRC64;


  Query Match             85.7%;  Score 30;  DB 1;  Length 986;
  Best Local Similarity   100.0%;  Pred. No. 1.1e+02;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLKLL 7
          |||||||
Db    569 KLLLKLL 575


RESULT  12
CAPG_STAAU
ID   CAPG_STAAU     STANDARD;      PRT;   172 AA.
AC   P39856;
DT   01-FEB-1995 (Rel. 31, Created)
DT   01-FEB-1995 (Rel. 31, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Protein capG.
GN   CAPG.
OS   Staphylococcus aureus.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group;
OC   Bacillus/Staphylococcus group; Staphylococcus.
OX   NCBI_TaxID=1280;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=M;
RX   MEDLINE=95050273; PubMed=7961465;
RA   Lin W.S., Cunneen T., Lee C.Y.;
RT   "Sequence analysis and molecular characterization of genes required
RT   for the biosynthesis of type 1 capsular polysaccharide in
RT   Staphylococcus aureus.";
RL   J. Bacteriol. 176:7005-7016(1994).
CC   -!- FUNCTION: REQUIRED FOR THE BIOSYNTHESIS OF TYPE 1 CAPSULAR
CC       POLYSACCHARIDE.
CC   -!- SIMILARITY: BELONGS TO THE CYSE/LACA/LPXA/NODL FAMILY OF
CC       ACETYLTRANSFERASES. COMPOSED OF MULTIPLE REPEATS OF [LIV]-G-X(4).
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U10927; AAA64646.1; -.
DR   InterPro; IPR001451; Hexapep_transf.
DR   Pfam; PF00132; hexapep; 3.
DR   PROSITE; PS00101; HEXAPEP_TRANSFERASES; 1.
KW   Transferase; Repeat.
SQ   SEQUENCE   172 AA;  19451 MW;  1608180D13A10EA4 CRC64;


  Query Match             82.9%;  Score 29;  DB 1;  Length 172;
  Best Local Similarity   75.0%;  Pred. No. 33;
  Matches    6;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          || |||:|
Db      3 KLFLKLMK 10
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RESULT  13
SOML_TETMU
ID   SOML_TETMU     STANDARD;      PRT;   229 AA.
AC   Q9I9H4;
DT   01-MAR-2002 (Rel. 41, Created)
DT   01-MAR-2002 (Rel. 41, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Somatolactin precursor (SL).
OS   Tetraodon miurus (Congo puffer).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
OC   Tetraodontidae; Tetraodon.
OX   NCBI_TaxID=94908;
RN   [1].
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pituitary;
RA   Rand-Weaver M., May D.;
RT   "Cloning and sequencing of Tetraodon miurus somatolactin.";
RL   Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: PITUITARY GLAND.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; AF253066; AAF64522.1; -.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL        1     21       POTENTIAL.
FT   CHAIN        22    229       SOMATOLACTIN.
FT   DISULFID     26     36       BY SIMILARITY.
FT   DISULFID     87    203       BY SIMILARITY.
FT   DISULFID    220    228       BY SIMILARITY.
FT   CARBOHYD    143    143       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   229 AA;  26125 MW;  C10CCF295D28C447 CRC64;


  Query Match           82.9%;  Score 29;  DB 1;  Length 229;
  Best Local Similarity   75.0%;  Pred. No. 44;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            ::||||||
Db     212 EILLKLLK 219


RESULT  14
SOM1_SPAAU
ID   SOM1_SPAAU     STANDARD;      PRT;   231 AA.
AC   P54863;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   15-JUL-1999 (Rel. 38, Last annotation update)
DE   Somatolactin 1 precursor (SL).
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pituitary;
RX   MEDLINE=97114243; PubMed=8954766;
RA   Astola A., Pendon C., Ortiz M., Valdivia M.M.;
RT   "Cloning and expression of somatolactin, a pituitary hormone related
RT   to growth hormone and prolactin from gilthead seabream, Sparus
RT   aurata.";
RL   Gen. Comp. Endocrinol. 104:330-336(1996).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: PITUITARY GLAND.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; L49205; AAA98734.1; -.
DR   HSSP; P01246; 1BST.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL        1     24       POTENTIAL.
FT   CHAIN        25    231       SOMATOLACTIN 1.
FT   DISULFID     29     39       BY SIMILARITY.
FT   DISULFID     89    205       BY SIMILARITY.
FT   DISULFID    222    230       BY SIMILARITY.
FT   CARBOHYD    145    145       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   231 AA;  26961 MW;  67A44E7D43E02504 CRC64;


  Query Match           82.9%;  Score 29;  DB 1;  Length 231;
  Best Local Similarity   75.0%;  Pred. No. 45;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            ::||||||
Db     214 EILLKLLK 221


RESULT  15
SOM2_SPAAU
ID   SOM2_SPAAU     STANDARD;      PRT;   231 AA.
AC   P79894;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Somatolactin 2 precursor (SL).
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pituitary;
RA   Cavari B., Funkenstein B., Kawauchi H.;
RL   Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: PITUITARY GLAND.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   ----------------------------------------------------------------------------
DR   EMBL; Y11144; CAA72031.1; -.
DR   HSSP; P01246; 1BST.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL        1     24       POTENTIAL.
FT   CHAIN        25    231       SOMATOLACTIN 2.
FT   DISULFID     29     39       BY SIMILARITY.
FT   DISULFID     89    205       BY SIMILARITY.
FT   DISULFID    222    230       BY SIMILARITY.
FT   CARBOHYD    145    145       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   231 AA;  26765 MW;  09C774C68DE08BA1 CRC64;


  Query Match             82.9%;  Score 29;  DB 1;  Length 231;
  Best Local Similarity   75.0%;  Pred. No. 45;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            ::||||||
Db     214 EILLKLLK 221


Search completed: June 17, 2002, 12:44:47
Job time: 302 sec
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GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:44:20 ; Search time 73.61 Seconds
(without alignments)
18.801 Million cell updates/sec

Title: US-09-367-714A-29
Perfect score: 35
Sequence: 1 KLLLKLLK 8

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 562222 seqs, 172994929 residues

Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_19:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 32 | 91.4 | 302 | 5 | Q26784 | Q26784 trypanosoma |
| 2 | 32 | 91.4 | 542 | 12 | Q9IZC1 | Q9izc1 salem virus |
| 3 | 31 | 88.6 | 194 | 11 | Q91YF2 | Q91yf2 mus musculu |
| 4 | 31 | 88.6 | 236 | 10 | Q948F3 | Q948f3 oryza sativ |
| 5 | 31 | 88.6 | 296 | 16 | Q92HH2 | Q92hh2 rickettsia |
| 6 | 31 | 88.6 | 359 | 11 | O88829 | O88829 mus musculu |
| 7 | 31 | 88.6 | 359 | 11 | Q9QWF8 | Q9qwf8 mus musculu |
| 8 | 31 | 88.6 | 384 | 17 | Q9HK94 | Q9hk94 thermoplasm |
| 9 | 31 | 88.6 | 387 | 11 | Q9CZ65 | Q9cz65 mus musculu |
| 10 | 31 | 88.6 | 387 | 11 | Q9QWF9 | Q9qwf9 mus musculu |
| 11 | 31 | 88.6 | 960 | 12 | Q91GJ3 | Q91gj3 epiphyas po |
| 12 | 31 | 88.6 | 1211 | 13 | Q91086 | Q91086 meleagris g |
| 13 | 30 | 85.7 | 60 | 4 | Q96DS5 | Q96ds5 homo sapien |
| 14 | 30 | 85.7 | 66 | 4 | Q96DS3 | Q96ds3 homo sapien |
| 15 | 30 | 85.7 | 95 | 4 | Q96DS1 | Q96ds1 homo sapien |
| 16 | 30 | 85.7 | 110 | 2 | Q9R2T1 | Q9r2t1 borrelia bu |
| 17 | 30 | 85.7 | 110 | 2 | Q9S089 | Q9s089 borrelia bu |
| 18 | 30 | 85.7 | 110 | 2 | Q9S047 | Q9s047 borrelia bu |
| 19 | 30 | 85.7 | 110 | 2 | Q9RZZ6 | Q9rzz6 borrelia bu |
| 20 | 30 | 85.7 | 110 | 2 | Q44792 | Q44792 borrelia bu |
| 21 | 30 | 85.7 | 130 | 4 | Q9H4C3 | Q9h4c3 homo sapien |
| 22 | 30 | 85.7 | 135 | 5 | Q95WZ4 | Q95wz4 ixodes scap |
| 23 | 30 | 85.7 | 137 | 11 | Q9DBL5 | Q9dbl5 mus musculu |
| 24 | 30 | 85.7 | 159 | 4 | Q96DS0 | Q96ds0 homo sapien |
| 25 | 30 | 85.7 | 162 | 8 | Q950Q3 | Q950q3 spizellomyc |
| 26 | 30 | 85.7 | 166 | 16 | Q9PPQ9 | Q9ppq9 ureaplasma |
| 27 | 30 | 85.7 | 191 | 17 | Q97WI9 | Q97wi9 sulfolobus |
| 28 | 30 | 85.7 | 195 | 4 | Q96DS4 | Q96ds4 homo sapien |
| 29 | 30 | 85.7 | 217 | 10 | Q942V5 | Q942v5 oryza sativ |
| 30 | 30 | 85.7 | 237 | 4 | Q96LK7 | Q96lk7 homo sapien |
| 31 | 30 | 85.7 | 243 | 4 | Q9H4C5 | Q9h4c5 homo sapien |
| 32 | 30 | 85.7 | 282 | 16 | Q9ZLZ4 | Q9zlz4 helicobacte |
| 33 | 30 | 85.7 | 321 | 17 | O58243 | O58243 pyrococcus |
| 34 | 30 | 85.7 | 325 | 13 | Q9PVL2 | Q9pvl2 gallus gall |
| 35 | 30 | 85.7 | 396 | 4 | Q9NXT4 | Q9nxt4 homo sapien |
| 36 | 30 | 85.7 | 418 | 10 | Q9LDC5 | Q9ldc5 oryza sativ |
| 37 | 30 | 85.7 | 487 | 6 | Q9GMZ6 | Q9gmz6 canis famil |
| 38 | 30 | 85.7 | 487 | 6 | Q95KN5 | Q95kn5 canis famil |
| 39 | 30 | 85.7 | 489 | 11 | Q91XK7 | Q91xk7 mus musculu |
| 40 | 30 | 85.7 | 586 | 4 | Q9NRU3 | Q9nru3 homo sapien |
| 41 | 30 | 85.7 | 586 | 11 | Q9JIQ6 | Q9jiq6 mus musculu |
| 42 | 30 | 85.7 | 631 | 4 | Q9NRN1 | Q9nrn1 homo sapien |
| 43 | 30 | 85.7 | 633 | 4 | Q9NRK5 | Q9nrk5 homo sapien |
| 44 | 30 | 85.7 | 633 | 4 | Q9H952 | Q9h952 homo sapien |
| 45 | 30 | 85.7 | 644 | 11 | Q9JIM7 | Q9jim7 mus musculu |

ALIGNMENTS

RESULT 1
Q26784
ID Q26784 PRELIMINARY; PRT; 302 AA.
AC Q26784;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE MRNA SEQUENCE (FRAGMENT).
OS Trypanosoma brucei.
OC Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae; Trypanosoma.
OX NCBI_TaxID=5691;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95140053; PubMed=7838181;
RA Woodward R., Carden M.J., Gull K.;
RT "Molecular characterisation of a novel, repetitive protein of the
RT paraflagellar rod in Trypanosoma brucei.";
RL Mol. Biochem. Parasitol. 67:31-39(1994).
DR EMBL; M87318; AAC37211.1; -.
FT NON_TER 1 1
SQ SEQUENCE 302 AA; 36223 MW; B3CA5AB868E877CC CRC64;

Query Match 91.4%; Score 32; DB 5; Length 302;
Best Local Similarity 87.5%; Pred. No. 98;
Matches 7; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Qy       1 KLLLKLLK 8
           |||||:||
Db      21 KLLLKVLK 28
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RESULT 2
Q9IZC1
ID Q9IZC1 PRELIMINARY; PRT; 542 AA.
AC Q9IZC1;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-JUN-2001 (TrEMBLrel. 17, Last annotation update)

```
DE   N PROTEIN.
GN   N.
OS   Salem virus.
OC   Viruses; ssRNA negative-strand viruses; Mononegavirales;
OC   Paramyxoviridae; Paramyxovirinae; Paramyxovirus.
OX   NCBI_TaxID=120499;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20255542; PubMed=10793001;
RA   Renshaw R.W., Glaser A.L., Van Campen H., Weiland F., Dubovi E.J.;
RT   "Identification and phylogenetic comparison of salem virus, a novel
RT   paramyxovirus of horses.";
RL   Virology 270:417-429(2000).
DR   EMBL; AF237881; AAF63741.1; -.
DR   InterPro; IPR002021; Paramyx_ncap.
DR   Pfam; PF00973; Paramyx_ncap; 1.
SQ   SEQUENCE   542 AA;  60717 MW;  F057ECF483F1F7D9 CRC64;


  Query Match             91.4%;  Score 32;  DB 12;  Length 542;
  Best Local Similarity   87.5%;  Pred. No. 1.6e+02;
  Matches    7;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          |||||||:
Db     50 KLLLKLLR 57


RESULT   3
Q91YF2
ID   Q91YF2      PRELIMINARY;      PRT;   194 AA.
AC   Q91YF2;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   GM3 SYNTHASE PROTEIN.
GN   GM3 SYNTHASE.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ICR; TISSUE=BRAIN;
RA   Shuichi T.;
RL   Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; Y18023; CAC79655.1; -.
SQ   SEQUENCE   194 AA;  22205 MW;  E68780E30BFE84EC CRC64;


  Query Match             88.6%;  Score 31;  DB 11;  Length 194;
  Best Local Similarity   87.5%;  Pred. No. 1.1e+02;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          | ||||||
Db    175 KFLLKLLK 182


RESULT   4
Q948F3
ID   Q948F3      PRELIMINARY;      PRT;   236 AA.
AC   Q948F3;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   PUTATIVE RIBONUCLEOTIDE REDUCTASE (FRAGMENT).
GN   OSJNBA0049O12.22.
OS   Oryza sativa (Rice).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
OC   Ehrhartoideae; Oryzeae; Oryza.
OX   NCBI_TaxID=4530;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=NIPPONBARE;
RA   Spiegel L., Nascimento L., de la Bastide M., Kirchoff K., Preston R.,
RA   King L., Vil M.D., Baker J., Zutavern T., Santos L., Miller B.,
RA   Kuit K., Cunnius D.M., Balija V., Shah R., Bahret A., Bell M.,
RA   Yang C., Palmer L., O'Shaughnessy A., Dedhia N., McCombie W.R.;
RT   "Genomic Sequence for Oryza sativa, Nipponbare strain, clone
RT   OSJNBa0049O12, from chromosome 2, complete sequence.";
RL   Submitted (SEP-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AC069158; AAK98710.1; -.
FT   NON_TER       1       1
SQ   SEQUENCE   236 AA;  26749 MW;  D29916BA145DC49A CRC64;


  Query Match             88.6%;  Score 31;  DB 10;  Length 236;
  Best Local Similarity   87.5%;  Pred. No. 1.2e+02;
  Matches    7;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          |||||||:
Db      1 KLLLKLLQ 8


RESULT   5
Q92HH2
ID   Q92HH2      PRELIMINARY;      PRT;   296 AA.
AC   Q92HH2;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   HYPOTHETICAL PROTEIN RC0799.
GN   RC0799.
OS   Rickettsia conorii.
OC   Bacteria; Proteobacteria; alpha subdivision; Rickettsiales;
OC   Rickettsiaceae; Rickettsieae; Rickettsia.
OX   NCBI_TaxID=781;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=MALISH 7;
RX   MEDLINE=21442074; PubMed=11557893;
RA   Ogata H., Audic S., Renesto-Audiffren P., Fournier P.-E., Barbe V.,
RA   Samson D., Roux V., Cossart P., Weissenbach J., Claverie J.-M.,
RA   Raoult D.;
RT   "Mechanisms of evolution in Rickettsia conorii and R. prowazekii.";
RL   Science 293:2093-2098(2001).
DR   EMBL; AE008635; AAL03337.1; -.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   296 AA;  33899 MW;  381A649E1DDBAB5C CRC64;


  Query Match             88.6%;  Score 31;  DB 16;  Length 296;
  Best Local Similarity   75.0%;  Pred. No. 1.5e+02;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          |:|||:||
Db    287 KILLKILK 294


RESULT   6
O88829
ID   O88829      PRELIMINARY;      PRT;   359 AA.
AC   O88829;
DT   01-NOV-1998 (TrEMBLrel. 08, Created)
DT   01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GM3 SYNTHASE (EC 2.4.99.9).
GN   SIAT9.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
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RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL6J; TISSUE=BRAIN;
RA   Ishii A., Saito M.;
RT   "Mouse GM3 Synthase cDNA.";
RL   Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=BALB-C;
RA   Fukumoto S., Miyazaki H., Urano T., Furukawa K.;
RT   "Expression cloning of mouse cDNA of CMP-NeuAc: lactosylceramide
RT   alpha2,3sialyltransferase (GM3 synthase), the enzyme that initiates
RT   the synthesis of gangliosides).";
RL   Submitted (APR-1998) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RA   Kapitonov D., Yu R.K.;
RT   "Combinatorial PCR in homologous cloning: cloning of GM3 synthase (ST-
RT   I).";
RL   Submitted (JAN-1999) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AB018048; BAA33491.1; -.
DR   EMBL; AB013302; BAA76467.1; -.
DR   EMBL; AF119416; AAF66147.1; -.
DR   MGD; MGI:1339963; Siat9.
DR   InterPro; IPR001675; Glyco_transf_29.
DR   Pfam; PF00777; Glyco_transf_29; 1.
KW   Transferase; Glycosyltransferase.
SQ   SEQUENCE   359 AA;  41245 MW;  38D81D0B8CFC4961 CRC64;


  Query Match             88.6%;  Score 31;  DB 11;  Length 359;
  Best Local Similarity   87.5%;  Pred. No. 1.8e+02;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
           | ||||||
Db     340 KFLLKLLK 347


RESULT   7
Q9QWF8
ID   Q9QWF8      PRELIMINARY;      PRT;   359 AA.
AC   Q9QWF8;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   LACTOSYLCERAMIDE ALPHA-2,3-SIALYLTRANSFERASE (EC 2.4.99.9).
GN   SIAT9 OR ST3GAL V.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ICR; TISSUE=BRAIN;
RX   MEDLINE=99092398; PubMed=9875239;
RA   Kono M., Takashima S., Liu H., Inoue M., Kojima N., Young-Choon L.,
RA   Hamamoto T., Tsuji S.;
RT   "Molecular cloning and characterization of fifth type of beta-
RT   galactoside alpha-2,3-sialyltransferase (ST3Gal V; GM3 synthase).";
RL   Biochem. Biophys. Res. Commun. 253:170-175(1998).
DR   EMBL; Y15003; CAA75236.1; -.
DR   MGD; MGI:1339963; Siat9.
DR   InterPro; IPR001675; Glyco_transf_29.
DR   Pfam; PF00777; Glyco_transf_29; 1.
KW   Transferase; Glycosyltransferase.
SQ   SEQUENCE   359 AA;  41235 MW;  8E3C734CD1899E3C CRC64;


  Query Match             88.6%;  Score 31;  DB 11;  Length 359;
  Best Local Similarity   87.5%;  Pred. No. 1.8e+02;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
           | ||||||
Db     340 KFLLKLLK 347


RESULT   8
Q9HK94
ID   Q9HK94      PRELIMINARY;      PRT;   384 AA.
AC   Q9HK94;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   HYPOTHETICAL PROTEIN TA0707.
GN   TA0707.
OS   Thermoplasma acidophilum.
OC   Archaea; Euryarchaeota; Thermoplasmales; Thermoplasmaceae;
OC   Thermoplasma.
OX   NCBI_TaxID=2303;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=DSM 1728;
RX   MEDLINE=20479972; PubMed=11029001;
RA   Ruepp A., Graml W., Santos-Martinez M.-L., Koretke K.K., Volker C.,
RA   Mewes H.-W., Frishman D., Stocker S., Lupas A.N., Baumeister W.;
RT   "The genome sequence of the thermoacidophilic scavenger Thermoplasma
RT   acidophilum.";
RL   Nature 407:508-513(2000).
DR   EMBL; AL445065; CAC11845.1; -.
DR   InterPro; IPR001296; Glycos_transf_1.
DR   Pfam; PF00534; Glycos_transf_1; 1.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   384 AA;  44734 MW;  BEC8D05CF0237E40 CRC64;


  Query Match             88.6%;  Score 31;  DB 17;  Length 384;
  Best Local Similarity   75.0%;  Pred. No. 1.9e+02;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
           |||:|:||
Db     218 KLLMKILK 225


RESULT   9
Q9CZ65
ID   Q9CZ65      PRELIMINARY;      PRT;   387 AA.
AC   Q9CZ65;
DT   01-JUN-2001 (TrEMBLrel. 17, Created)
DT   01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   SIALYLTRANSFERASE 9 (CMP-NEUAC:LACTOSYLCERAMIDE ALPHA-2,3-
DE   SIALYLTRANSFERASE).
GN   SIAT9.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=EMBRYO;
RX   MEDLINE=21085660; PubMed=11217851;
RA   Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA   Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA   Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA   Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA   Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA   Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
RA   Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA   Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA   Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA   Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA   Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA   Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
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RA   Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA   Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA   Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA   Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA   Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
RA   Hayashizaki Y.;
RT   "Functional annotation of a full-length mouse cDNA collection.";
RL   Nature 409:685-690(2001).
DR   EMBL; AK012961; BAB28571.1; -.
DR   MGD; MGI:1339963; Siat9.
DR   InterPro; IPR001675; Glyco_transf_29.
DR   Pfam; PF00777; Glyco_transf_29; 1.
SQ   SEQUENCE   387 AA;  44572 MW;  7D358298034CDD96 CRC64;


  Query Match             88.6%;  Score 31;  DB 11;  Length 387;
  Best Local Similarity   87.5%;  Pred. No. 1.9e+02;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          | ||||||
Db    368 KFLLKLLK 375


RESULT  10
Q9QWF9
ID   Q9QWF9      PRELIMINARY;      PRT;   387 AA.
AC   Q9QWF9;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   LACTOSYLCERAMIDE ALPHA-2,3-SIALYLTRANSFERASE (EC 2.4.99.9).
GN   SIAT9 OR ST3GAL V.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ICR; TISSUE=BRAIN;
RX   MEDLINE=99092398; PubMed=9875239;
RA   Kono M., Takashima S., Liu H., Inoue M., Kojima N., Young-Choon L.,
RA   Hamamoto T., Tsuji S.;
RT   "Molecular cloning and characterization of fifth type of beta-
RT   galactoside alpha-2,3-sialyltransferase (ST3Gal V; GM3 synthase).";
RL   Biochem. Biophys. Res. Commun. 253:170-175(1998).
DR   EMBL; Y15003; CAA75235.1; -.
DR   MGD; MGI:1339963; Siat9.
DR   InterPro; IPR001675; Glyco_transf_29.
DR   Pfam; PF00777; Glyco_transf_29; 1.
KW   Transferase; Glycosyltransferase.
SQ   SEQUENCE   387 AA;  44562 MW;  CBD1ECDF5E390ACB CRC64;


  Query Match             88.6%;  Score 31;  DB 11;  Length 387;
  Best Local Similarity   87.5%;  Pred. No. 1.9e+02;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          | ||||||
Db    368 KFLLKLLK 375


RESULT  11
Q91GJ3
ID   Q91GJ3      PRELIMINARY;      PRT;   960 AA.
AC   Q91GJ3;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   DNAPOL.
GN   DNAPOL.
OS   Epiphyas postvittana nucleopolyhedrovirus.
OC   Viruses; dsDNA viruses, no RNA stage; Baculoviridae;
OC   Nucleopolyhedrovirus.
OX   NCBI_TaxID=70600;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Hyink O., Dellow R.A., Olsen M., Caradoc-Davies K.M.B., Drake K.,
RA   Ward V.K.;
RT   "The complete sequence of the Epiphyas postvittana
RT   nucleopolyhedrovirus genome.";
RL   Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY043265; AAK85622.1; -.
SQ   SEQUENCE   960 AA;  111520 MW;  0CB8A8E2E0F5B540 CRC64;


  Query Match             88.6%;  Score 31;  DB 12;  Length 960;
  Best Local Similarity   87.5%;  Pred. No. 4.3e+02;
  Matches    7;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          ||||:|||
Db    562 KLLLELLK 569


RESULT  12
Q91086
ID   Q91086      PRELIMINARY;      PRT;  1211 AA.
AC   Q91086;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   PHOSPHOLIPASE C BETA.
OS   Meleagris gallopavo (Common turkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
OX   NCBI_TaxID=9103;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=96257751; PubMed=8687401;
RA   Waldo G.L., Paterson A., Boyer J.L., Nicholas R.A., Harden T.K.;
RT   "Molecular cloning, expression and regulatory activity of G alpha 11-
RT   and beta gamma-subunit-stimulated phospholipase C-beta from avian
RT   erythrocytes.";
RL   Biochem. J. 316:559-568(1996).
DR   EMBL; U49431; AAC60011.1; -.
DR   HSSP; P10688; 1QAS.
DR   InterPro; IPR000008; C2.
DR   InterPro; IPR001192; PI_PLC.
DR   InterPro; IPR000909; PI_PLC_X.
DR   InterPro; IPR001711; PI_PLC_Y.
DR   Pfam; PF00168; C2; 1.
DR   Pfam; PF00388; PI-PLC-X; 1.
DR   Pfam; PF00387; PI-PLC-Y; 1.
DR   PRINTS; PR00390; PHPHLIPASEC.
DR   ProDom; PD001202; PI_PLC_Y; 1.
DR   SMART; SM00239; C2; 1.
DR   SMART; SM00148; PLCXc; 1.
DR   SMART; SM00149; PLCYc; 1.
DR   PROSITE; PS50004; C2_DOMAIN_2; 1.
DR   PROSITE; PS50007; PIPLC_X_DOMAIN; 1.
DR   PROSITE; PS50008; PIPLC_Y_DOMAIN; 1.
SQ   SEQUENCE   1211 AA;  139061 MW;  4E96A10C6AFD6B5A CRC64;


  Query Match             88.6%;  Score 31;  DB 13;  Length 1211;
  Best Local Similarity   87.5%;  Pred. No. 5.2e+02;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 KLLLKLLK 8
          || ||||:
Db    902 KLFLKLLK 909


RESULT  13
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Q96DS5
ID   Q96DS5      PRELIMINARY;      PRT;    60 AA.
AC   Q96DS5;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   MDM2 VARIANT FB25.
GN   MDM2.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=RHABDOMYOSARCOMA TUMOR;
RA   Bartel F., Taylor A.C., Taubert H., Harris L.C.;
RT   "Novel mdm2 splice variants identified in pediatric rhabdomyosarcoma
RT   tumors and cell lines.";
RL   Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF385322; AAL13242.1; -.
SQ   SEQUENCE   60 AA;  6652 MW;  BCC2CC61C4CC98A3 CRC64;


  Query Match             85.7%;  Score 30;  DB 4;  Length 60;
  Best Local Similarity   100.0%;  Pred. No. 59;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


RESULT  14
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ID   Q96DS3      PRELIMINARY;      PRT;    66 AA.
AC   Q96DS3;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   MDM2 VARIANT FB28.
GN   MDM2.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=RHABDOMYOSARCOMA TUMOR;
RA   Bartel F., Taylor A.C., Taubert H., Harris L.C.;
RT   "Novel mdm2 splice variants identified in pediatric rhabdomyosarcoma
RT   tumors and cell lines.";
RL   Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF385324; AAL13244.1; -.
SQ   SEQUENCE   66 AA;  7396 MW;  E3B3F3C385D4A8A5 CRC64;


  Query Match             85.7%;  Score 30;  DB 4;  Length 66;
  Best Local Similarity   100.0%;  Pred. No. 65;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


RESULT  15
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AC   Q96DS1;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   MDM2 VARIANT FB30.
GN   MDM2.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=RHABDOMYOSARCOMA TUMOR;
RA   Bartel F., Taylor A.C., Taubert H., Harris L.C.;
RT   "Novel mdm2 splice variants identified in pediatric rhabdomyosarcoma
RT   tumors and cell lines.";
RL   Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF385326; AAL13246.1; -.
SQ   SEQUENCE   95 AA;  10622 MW;  00052F95211E3612 CRC64;


  Query Match             85.7%;  Score 30;  DB 4;  Length 95;
  Best Local Similarity   100.0%;  Pred. No. 89;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


Search completed: June 17, 2002, 12:44:21
Job time: 296 sec
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GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:42:04 ; Search time 34.71 Seconds
(without alignments)
5.630 Million cell updates/sec

Title: US-09-367-714A-29
Perfect score: 35
Sequence: 1 KLLLKLLK 8

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 31 | 88.6 | 414 | 4 | US-09-334-601-4 | Sequence 4, Appli |
| 2 | 30 | 85.7 | 18 | 1 | US-07-725-331-9 | Sequence 9, Appli |
| 3 | 30 | 85.7 | 18 | 5 | PCT-US91-05047-9 | Sequence 9, Appli |
| 4 | 30 | 85.7 | 21 | 1 | US-08-944-133-13 | Sequence 13, Appl |
| 5 | 30 | 85.7 | 86 | 2 | US-08-248-839C-47 | Sequence 47, Appl |
| 6 | 30 | 85.7 | 489 | 1 | US-07-903-103-4 | Sequence 4, Appli |
| 7 | 30 | 85.7 | 489 | 1 | US-08-044-619A-4 | Sequence 4, Appli |
| 8 | 30 | 85.7 | 489 | 1 | US-08-283-911-4 | Sequence 4, Appli |
| 9 | 30 | 85.7 | 489 | 1 | US-08-245-500A-5 | Sequence 5, Appli |
| 10 | 30 | 85.7 | 489 | 1 | US-08-390-546-5 | Sequence 5, Appli |
| 11 | 30 | 85.7 | 489 | 1 | US-08-390-479A-5 | Sequence 5, Appli |
| 12 | 30 | 85.7 | 489 | 1 | US-08-557-393-5 | Sequence 5, Appli |
| 13 | 30 | 85.7 | 489 | 1 | US-08-390-516C-5 | Sequence 5, Appli |
| 14 | 30 | 85.7 | 489 | 1 | US-08-390-517A-5 | Sequence 5, Appli |
| 15 | 30 | 85.7 | 489 | 1 | US-08-390-515A-5 | Sequence 5, Appli |
| 16 | 30 | 85.7 | 489 | 2 | US-08-801-718-5 | Sequence 5, Appli |
| 17 | 30 | 85.7 | 491 | 1 | US-07-903-103-2 | Sequence 2, Appli |
| 18 | 30 | 85.7 | 491 | 1 | US-08-044-619A-2 | Sequence 2, Appli |
| 19 | 30 | 85.7 | 491 | 1 | US-08-283-911-2 | Sequence 2, Appli |
| 20 | 30 | 85.7 | 491 | 1 | US-08-245-500A-3 | Sequence 3, Appli |
| 21 | 30 | 85.7 | 491 | 1 | US-08-390-546-3 | Sequence 3, Appli |
| 22 | 30 | 85.7 | 491 | 1 | US-08-390-479A-3 | Sequence 3, Appli |
| 23 | 30 | 85.7 | 491 | 1 | US-08-557-393-3 | Sequence 3, Appli |
| 24 | 30 | 85.7 | 491 | 1 | US-08-390-516C-3 | Sequence 3, Appli |
| 25 | 30 | 85.7 | 491 | 1 | US-08-390-517A-3 | Sequence 3, Appli |
| 26 | 30 | 85.7 | 491 | 1 | US-08-390-515A-3 | Sequence 3, Appli |
| 27 | 30 | 85.7 | 491 | 2 | US-08-801-718-3 | Sequence 3, Appli |
| 28 | 29 | 82.9 | 9 | 1 | US-08-465-325-138 | Sequence 138, App |
| 29 | 29 | 82.9 | 9 | 4 | US-09-115-737-138 | Sequence 138, App |
| 30 | 29 | 82.9 | 14 | 1 | US-07-725-331-1 | Sequence 1, Appli |
| 31 | 29 | 82.9 | 14 | 2 | US-08-569-188-8 | Sequence 8, Appli |
| 32 | 29 | 82.9 | 14 | 5 | PCT-US91-05047-1 | Sequence 1, Appli |
| 33 | 29 | 82.9 | 14 | 5 | PCT-US94-07019-8 | Sequence 8, Appli |
| 34 | 29 | 82.9 | 16 | 1 | US-07-725-331-4 | Sequence 4, Appli |
| 35 | 29 | 82.9 | 16 | 2 | US-08-569-188-1 | Sequence 1, Appli |
| 36 | 29 | 82.9 | 16 | 2 | US-08-569-188-2 | Sequence 2, Appli |
| 37 | 29 | 82.9 | 16 | 2 | US-08-569-188-10 | Sequence 10, Appl |
| 38 | 29 | 82.9 | 16 | 2 | US-08-569-188-11 | Sequence 11, Appl |
| 39 | 29 | 82.9 | 16 | 2 | US-08-569-188-12 | Sequence 12, Appl |
| 40 | 29 | 82.9 | 16 | 2 | US-08-569-188-13 | Sequence 13, Appl |
| 41 | 29 | 82.9 | 16 | 5 | PCT-US91-05047-4 | Sequence 4, Appli |
| 42 | 29 | 82.9 | 16 | 5 | PCT-US94-07019-1 | Sequence 1, Appli |
| 43 | 29 | 82.9 | 16 | 5 | PCT-US94-07019-2 | Sequence 2, Appli |
| 44 | 29 | 82.9 | 16 | 5 | PCT-US94-07019-10 | Sequence 10, Appl |
| 45 | 29 | 82.9 | 16 | 5 | PCT-US94-07019-11 | Sequence 11, Appl |

ALIGNMENTS

RESULT 1
US-09-334-601-4
; Sequence 4, Application US/09334601
; Patent No. 6280989
; GENERAL INFORMATION:
; APPLICANT: Kapitonov, Dmitri
; APPLICANT: Yu, Robert
; TITLE OF INVENTION: NOVEL SIALYLTRANSFERASES
; FILE REFERENCE: VCUIP-6
; CURRENT APPLICATION NUMBER: US/09/334,601
; CURRENT FILING DATE: 1999-06-17
; NUMBER OF SEQ ID NOS: 94
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 414
; TYPE: PRT
; ORGANISM: Murinae gen. sp.
US-09-334-601-4

Query Match 88.6%; Score 31; DB 4; Length 414;
Best Local Similarity 87.5%; Pred. No. 2.1e+02;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy       1 KLLLKLLK 8
            | ||||||
Db     395 KFLLKLLK 402
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RESULT 2
US-07-725-331-9
; Sequence 9, Application US/07725331
; Patent No. 5294605
; GENERAL INFORMATION:
; APPLICANT: Houghten, Richard
; APPLICANT: Blondelle, Sylvie
; TITLE OF INVENTION: Amphiphilic Peptide Compositions and
; TITLE OF INVENTION: Analogues Thereof
; NUMBER OF SEQUENCES: 68
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Dressler, Goldsmith, Sutker, Shore,
; ADDRESSEE: & Milnamow
; STREET: 180 No. 5294605th Stetson
; CITY: Chicago
; STATE: IL
; COUNTRY: USA
; ZIP: 60601
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible

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;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.24
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/07/725,331
;       FILING DATE:
;       CLASSIFICATION:  514
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/554,422
;       FILING DATE:  19-JUL-1990
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Gamson, Edward P.
;       REGISTRATION NUMBER:  29,381
;       REFERENCE/DOCKET NUMBER:  421250-80
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  3126165418
;       TELEFAX:  3126165460
;   INFORMATION FOR SEQ ID NO:  9:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  18 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
;     FEATURE:
;       OTHER INFORMATION:  May be a C-terminal amide, and/or may
;       OTHER INFORMATION:  be acetylated at N-terminus, Xaa is
;       OTHER INFORMATION:  Met or methionine sulfoxide.
US-07-725-331-9


  Query Match           85.7%;  Score 30;  DB 1;  Length 18;
  Best Local Similarity   87.5%;  Pred. No. 19;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            ||| |||| 
Db       2 KLLXKLLK 9


RESULT   3
PCT-US91-05047-9
; Sequence 9, Application PC/TUS9105047
;  GENERAL INFORMATION:
;     APPLICANT:  Houghten, Richard
;     APPLICANT:  Blondelle, Sylvie
;     TITLE OF INVENTION:  Amphiphilic Peptide Compositions and
;     TITLE OF INVENTION:  Analogues Thereof
;     NUMBER OF SEQUENCES:  68
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  Dressler, Goldsmith, Sutker, Shore,
;       ADDRESSEE:  & Milnamow
;       STREET:  180 North Stetson
;       CITY:  Chicago
;       STATE:  IL
;       COUNTRY:  USA
;       ZIP:  60601
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.24
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  PCT/US91/05047
;       FILING DATE:  19910717
;       CLASSIFICATION:  514
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/554,422
;       FILING DATE:  19-JUL-1990
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Gamson, Edward P.
;       REGISTRATION NUMBER:  29,381
;       REFERENCE/DOCKET NUMBER:  421250-80
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  3126165418
;       TELEFAX:  3126165460
;   INFORMATION FOR SEQ ID NO:  9:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  18 amino acids
;       TYPE:  AMINO ACID
;       STRANDEDNESS:
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
;     FEATURE:
;       OTHER INFORMATION:  May be a C-terminal amide, and/or may
;       OTHER INFORMATION:  be acetylated at N-terminus, Xaa is
;       OTHER INFORMATION:  Met or methionine sulfoxide.
PCT-US91-05047-9


  Query Match           85.7%;  Score 30;  DB 5;  Length 18;
  Best Local Similarity   87.5%;  Pred. No. 19;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            ||| |||| 
Db       2 KLLXKLLK 9


RESULT   4
US-08-944-133-13
; Sequence 13, Application US/08944133
; Patent No. 5789542
;  GENERAL INFORMATION:
;     APPLICANT:  McLaughlin, Mark L
;     APPLICANT:  Becker, Calvin L
;     TITLE OF INVENTION:  Amphipathic Peptides
;     NUMBER OF SEQUENCES:  54
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  John H. Runnels
;       STREET:  P. O. Box 2471
;       CITY:  Baton Rouge
;       STATE:  LA
;       COUNTRY:  USA
;       ZIP:  70821-2471
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/944,133
;       FILING DATE:  06-OCT-1997
;       CLASSIFICATION:  5530
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/789,077
;       FILING DATE:  03-FEB-1997
;       APPLICATION NUMBER:  US/08/681,075
;       FILING DATE:
;       APPLICATION NUMBER:  US/08/232,525
;       FILING DATE:  22-APR-1994
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Runnels, John H
;       REGISTRATION NUMBER:  33451
;       REFERENCE/DOCKET NUMBER:  Atty File No. 5789542 9301
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  504 387-3221
;       TELEFAX:  504 346-8049
;   INFORMATION FOR SEQ ID NO:  13:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  21 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-944-133-13
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  Query Match             85.7%;  Score 30;  DB 1;  Length 21;
  Best Local Similarity   87.5%;  Pred. No. 22;
  Matches    7;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            || |||||
Db       2 KLALKLLK 9


RESULT   5
US-08-248-839C-47
; Sequence 47, Application US/08248839C
; Patent No. 5843702
;  GENERAL INFORMATION:
;    APPLICANT:  McConnell, David
;    APPLICANT:  Devine, Kevin
;    APPLICANT:  O'Kane, Charles
;    TITLE OF INVENTION:  A Gene Expression System
;    NUMBER OF SEQUENCES:  185
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  No. 5843702o No. 5843702disk of No. 5843702th America, Inc.
;      STREET:  405 Lexington Avenue
;      CITY:  New York
;      STATE:  New York
;      COUNTRY:  USA
;      ZIP:  10174-6401
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  DOS
;      SOFTWARE:  FastSEQ for Windows Version 2.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/248,839C
;      FILING DATE:  25-MAY-1994
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Gregg, Valeta A.
;      REGISTRATION NUMBER:  35,127
;      REFERENCE/DOCKET NUMBER:  3614.214-US
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  212-867-0123
;      TELEFAX:  212-878-9655
;  INFORMATION FOR SEQ ID NO:  47:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  86 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  Protein
US-08-248-839C-47


  Query Match             85.7%;  Score 30;  DB 2;  Length 86;
  Best Local Similarity   75.0%;  Pred. No. 76;
  Matches    6;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 KLLLKLLK 8
            |::|||||
Db      49 KIVLKLLK 56


RESULT   6
US-07-903-103-4
; Sequence 4, Application US/07903103
; Patent No. 5411860
;  GENERAL INFORMATION:
;    APPLICANT:  VOGELSTEIN, BERT
;    APPLICANT:  KINZLER, KENNETH
;    TITLE OF INVENTION:  AMPLIFICATION OF HUMAN MDM2 GENE IN
;    TITLE OF INVENTION:  HUMAN TUMORS
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER, BIRCH, MCKIE AND BECKETT
;      STREET:  1001 G ST., N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20001-4597
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/903,103
;      FILING DATE:  19920623
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/867.840
;      FILING DATE:  07-APR-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  KAGAN, SARAH A.
;      REGISTRATION NUMBER:  32,141
;      REFERENCE/DOCKET NUMBER:  01107.40148
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-508-9100
;      TELEFAX:  202-508-9299
;      TELEX:  197430 BBMB UT
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  489 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-07-903-103-4


  Query Match             85.7%;  Score 30;  DB 1;  Length 489;
  Best Local Similarity   100.0%;  Pred. No. 3.6e+02;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
            |||||||
Db      33 LLLKLLK 39


RESULT   7
US-08-044-619A-4
; Sequence 4, Application US/08044619A
; Patent No. 5420263
;  GENERAL INFORMATION:
;    APPLICANT:  THE JOHNS HOPKINS UNIVERSITY
;    APPLICANT:  720 RUTLAND AVENUE, BALTIMORE, MARYLAND 21205 USA
;    TITLE OF INVENTION:  AMPLIFICATION OF HUMAN MDM2 GENE IN
;    TITLE OF INVENTION:  HUMAN TUMORS
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER, BIRCH, MCKIE AND BECKETT
;      STREET:  1001 G ST., N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20001-4597
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/044,619A
;      FILING DATE:  07-APR-1993
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/903,103
;      FILING DATE:  23-JUN-1992
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;       APPLICATION NUMBER:  US 07/867.840
;       FILING DATE:  07-APR-1992
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  KAGAN, SARAH A.
;       REGISTRATION NUMBER:  32,141
;       REFERENCE/DOCKET NUMBER:  01107.40148
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  202-508-9100
;       TELEFAX:  202-508-9299
;       TELEX:  197430 BBMB UT
;   INFORMATION FOR SEQ ID NO:  4:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  489 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
US-08-044-619A-4


  Query Match             85.7%;  Score 30;  DB 1;  Length 489;
  Best Local Similarity   100.0%;  Pred. No. 3.6e+02;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
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Db      33 LLLKLLK 39


RESULT   8
US-08-283-911-4
; Sequence 4, Application US/08283911
; Patent No. 5519118
;  GENERAL INFORMATION:
;    APPLICANT:  VOGELSTEIN, BERT
;    APPLICANT:  KINZLER, KENNETH
;    TITLE OF INVENTION:  AMPLIFICATION OF HUMAN MDM2 GENE IN
;    TITLE OF INVENTION:  HUMAN TUMORS
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER, BIRCH, MCKIE AND BECKETT
;      STREET:  1001 G ST., N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20001-4597
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/283,911
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/903,103
;      FILING DATE:  23-JUN-1992
;      APPLICATION NUMBER:  US 07/867.840
;      FILING DATE:  07-APR-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  KAGAN, SARAH A.
;      REGISTRATION NUMBER:  32,141
;      REFERENCE/DOCKET NUMBER:  01107.40148
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-508-9100
;      TELEFAX:  202-508-9299
;      TELEX:  197430 BBMB UT
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  489 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-283-911-4


  Query Match             85.7%;  Score 30;  DB 1;  Length 489;
  Best Local Similarity   100.0%;  Pred. No. 3.6e+02;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


RESULT   9
US-08-245-500A-5
; Sequence 5, Application US/08245500A
; Patent No. 5550023
;  GENERAL INFORMATION:
;    APPLICANT:  BURRELL, MARILEE
;    APPLICANT:  HILL, DAVID E.
;    APPLICANT:  KINZLER, KENNETH W.
;    APPLICANT:  VOGELSTEIN, BERT
;    TITLE OF INVENTION:  AMPLIFICATION OF HUMAN MDM2 GENE IN
;    TITLE OF INVENTION:  HUMAN TUMORS
;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER, BIRCH, MCKIE AND BECKETT
;      STREET:  1001 G STREET, N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20001
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/245,500A
;      FILING DATE:  07-APR-1993
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  KAGAN, SARAH A.
;      REGISTRATION NUMBER:  32,141
;      REFERENCE/DOCKET NUMBER:  01107.42798
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-508-9100
;      TELEFAX:  202-508-9299
;      TELEX:  197430 BBMB UT
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  489 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-245-500A-5


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  Best Local Similarity   100.0%;  Pred. No. 3.6e+02;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


RESULT  10
US-08-390-546-5
; Sequence 5, Application US/08390546
; Patent No. 5606044
;  GENERAL INFORMATION:
;    APPLICANT:  BURRELL, MARILEE
;    APPLICANT:  HILL, DAVID E.
```

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;    APPLICANT:  KINZLER, KENNETH W.
;    APPLICANT:  VOGELSTEIN, BERT
;    TITLE OF INVENTION:  AMPLIFICATION OF HUMAN MDM2 GENE IN
;    TITLE OF INVENTION:  HUMAN TUMORS
;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER, BIRCH, MCKIE AND BECKETT
;      STREET:  1001 G STREET, N°W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20001
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/390,546
;      FILING DATE:  07-APR-1993
;      CLASSIFICATION:  536
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  KAGAN, SARAH A.
;      REGISTRATION NUMBER:  32,141
;      REFERENCE/DOCKET NUMBER:  01107.42798
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-508-9100
;      TELEFAX:  202-508-9299
;      TELEX:  197430 BBMB UT
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  489 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-390-546-5


  Query Match             85.7%;  Score 30;  DB 1;  Length 489;
  Best Local Similarity   100.0%;  Pred. No. 3.6e+02;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


RESULT  11
US-08-390-479A-5
; Sequence 5, Application US/08390479A
; Patent No. 5618921
;  GENERAL INFORMATION:
;    APPLICANT:  BURRELL, MARILEE
;    APPLICANT:  HILL, DAVID E.
;    APPLICANT:  KINZLER, KENNETH W.
;    APPLICANT:  VOGELSTEIN, BERT
;    TITLE OF INVENTION:  AMPLIFICATION OF HUMAN MDM2 GENE IN
;    TITLE OF INVENTION:  HUMAN TUMORS
;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER & WITCOFF, LTD.
;      STREET:  1001 G STREET, N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20001
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/390,479A
;      FILING DATE:  02-FEB-1995
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  KAGAN, SARAH A.
;      REGISTRATION NUMBER:  32,141
;      REFERENCE/DOCKET NUMBER:  01107.48992
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-508-9100
;      TELEFAX:  202-508-9299
;      TELEX:  197430 BBMB UT
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  489 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-390-479A-5


  Query Match             85.7%;  Score 30;  DB 1;  Length 489;
  Best Local Similarity   100.0%;  Pred. No. 3.6e+02;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
           |||||||
Db      33 LLLKLLK 39


RESULT  12
US-08-557-393-5
; Sequence 5, Application US/08557393
; Patent No. 5702903
;  GENERAL INFORMATION:
;    APPLICANT:  BURRELL, MARILEE
;    APPLICANT:  HILL, DAVID E.
;    APPLICANT:  KINZLER, KENNETH W.
;    APPLICANT:  VOGELSTEIN, BERT
;    TITLE OF INVENTION:  AMPLIFICATION OF HUMAN MDM2 GENE IN
;    TITLE OF INVENTION:  HUMAN TUMORS
;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BANNER, BIRCH, MCKIE AND BECKETT
;      STREET:  1001 G STREET, N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20001
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/557,393
;      FILING DATE:  13-NOV-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/245,500
;      FILING DATE:  18-MAY-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  KAGAN, SARAH A.
;      REGISTRATION NUMBER:  32,141
;      REFERENCE/DOCKET NUMBER:  01107.42798
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-508-9100
;      TELEFAX:  202-508-9299
;      TELEX:  197430 BBMB UT
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  489 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
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US-08-557-393-5

Query Match 85.7%; Score 30; DB 1; Length 489;
Best Local Similarity 100.0%; Pred. No. 3.6e+02;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      2 LLLKLLK 8
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Db     33 LLLKLLK 39
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RESULT 13
US-08-390-516C-5
; Sequence 5, Application US/08390516C
; Patent No. 5708136
; GENERAL INFORMATION:
; APPLICANT: BURRELL, MARILEE
; APPLICANT: HILL, DAVID E.
; APPLICANT: KINZLER, KENNETH W.
; APPLICANT: VOGELSTEIN, BERT
; TITLE OF INVENTION: AMPLIFICATION OF HUMAN MDM2 GENE IN
; TITLE OF INVENTION: HUMAN TUMORS
; NUMBER OF SEQUENCES: 9
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: BANNER, BIRCH, MCKIE AND BECKETT
; STREET: 1001 G STREET, N.W.
; CITY: WASHINGTON
; STATE: D.C.
; COUNTRY: USA
; ZIP: 20001
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/390,516C
; FILING DATE: 07-APR-1993
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: KAGAN, SARAH A.
; REGISTRATION NUMBER: 32,141
; REFERENCE/DOCKET NUMBER: 01107.42798
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 202-508-9100
; TELEFAX: 202-508-9299
; TELEX: 197430 BBMB UT
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 489 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-390-516C-5

Query Match 85.7%; Score 30; DB 1; Length 489;
Best Local Similarity 100.0%; Pred. No. 3.6e+02;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db     33 LLLKLLK 39
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; Patent No. 5736338
; GENERAL INFORMATION:
; APPLICANT: BURRELL, MARILEE
; APPLICANT: HILL, DAVID E.
; APPLICANT: KINZLER, KENNETH W.
; APPLICANT: VOGELSTEIN, BERT
; TITLE OF INVENTION: AMPLIFICATION OF HUMAN MDM2 GENE IN
; TITLE OF INVENTION: HUMAN TUMORS
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: BANNER, BIRCH, MCKIE AND BECKETT
; STREET: 1001 G STREET, N.W.
; CITY: WASHINGTON
; STATE: D.C.
; COUNTRY: USA
; ZIP: 20001
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/390,517A
; FILING DATE: 07-APR-1993
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: KAGAN, SARAH A.
; REGISTRATION NUMBER: 32,141
; REFERENCE/DOCKET NUMBER: 01107.42798
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 202-508-9100
; TELEFAX: 202-508-9299
; TELEX: 197430 BBMB UT
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 489 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-390-517A-5

Query Match 85.7%; Score 30; DB 1; Length 489;
Best Local Similarity 100.0%; Pred. No. 3.6e+02;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db     33 LLLKLLK 39
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; Patent No. 5756455
; GENERAL INFORMATION:
; APPLICANT: BURRELL, MARILEE
; APPLICANT: HILL, DAVID E.
; APPLICANT: KINZLER, KENNETH W.
; APPLICANT: VOGELSTEIN, BERT
; TITLE OF INVENTION: AMPLIFICATION OF HUMAN MDM2 GENE IN
; TITLE OF INVENTION: HUMAN TUMORS
; NUMBER OF SEQUENCES: 9
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: BANNER, BIRCH, MCKIE AND BECKETT
; STREET: 1001 G STREET, N.W.
; CITY: WASHINGTON
; STATE: D.C.
; COUNTRY: USA
; ZIP: 20001
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/390,515A

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;      FILING DATE:  07-APR-1993
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  KAGAN, SARAH A.
;      REGISTRATION NUMBER:  32,141
;      REFERENCE/DOCKET NUMBER:  01107.42798
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-508-9100
;      TELEFAX:  202-508-9299
;      TELEX:  197430 BBMB UT
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  489 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-390-515A-5


  Query Match             85.7%;  Score 30;  DB 1;  Length 489;
  Best Local Similarity   100.0%;  Pred. No. 3.6e+02;
  Matches    7;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 LLLKLLK 8
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Db      33 LLLKLLK 39


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Job time: 225 sec
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GenCore version 4.5


OM protein - protein search, using sw model

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Title: US-09-367-714A-92
Perfect score: 70
Sequence: 1 CKLLLKLLLKLLKC 14

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters: 747574

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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| 3 | 64 | 91.4 | 14 | 19 | AAW82855 | Antipathogenic pep |
| 4 | 64 | 91.4 | 77 | 19 | AAW82859 | Antipathogenic pep |
| 5 | 61 | 87.1 | 13 | 18 | AAW35231 | Diastereomer pepti |
| 6 | 61 | 87.1 | 13 | 21 | AAB17482 | Antipathogenic pep |
| 7 | 55 | 78.6 | 13 | 18 | AAW35232 | Diastereomer pepti |
| 8 | 55 | 78.6 | 13 | 21 | AAB17484 | Antipathogenic pep |
| 9 | 52 | 74.3 | 12 | 18 | AAW35149 | Leu/Lys diastereom |
| 10 | 52 | 74.3 | 12 | 18 | AAW35152 | Leu/Lys diastereom |
| 11 | 52 | 74.3 | 12 | 19 | AAW82847 | Antipathogenic pep |
| 12 | 52 | 74.3 | 12 | 19 | AAW82850 | Antipathogenic pep |
| 13 | 52 | 74.3 | 12 | 19 | AAW82856 | Antipathogenic pep |
| 14 | 52 | 74.3 | 12 | 21 | AAB17413 | Antipathogenic pep |
| 15 | 52 | 74.3 | 12 | 21 | AAB17416 | Antipathogenic pep |
| 16 | 52 | 74.3 | 12 | 21 | AAB17483 | Antipathogenic pep |
| 17 | 52 | 74.3 | 12 | 21 | AAB17485 | Antipathogenic pep |
| 18 | 52 | 74.3 | 37 | 19 | AAW77378 | Lytic peptide with |
| 19 | 46 | 65.7 | 12 | 18 | AAW35150 | Leu/Lys diastereom |
| 20 | 46 | 65.7 | 12 | 18 | AAW35153 | Leu/Lys diastereom |
| 21 | 46 | 65.7 | 12 | 18 | AAW35169 | Leu/Lys diastereom |
| 22 | 46 | 65.7 | 12 | 18 | AAW35170 | Leu/Lys diastereom |
| 23 | 46 | 65.7 | 12 | 18 | AAW35171 | Leu/Lys diastereom |
| 24 | 46 | 65.7 | 12 | 19 | AAW82848 | Antipathogenic pep |
| 25 | 46 | 65.7 | 12 | 19 | AAW82851 | Antipathogenic pep |
| 26 | 46 | 65.7 | 12 | 19 | AAW82857 | Antipathogenic pep |
| 27 | 46 | 65.7 | 12 | 19 | AAW82885 | Antipathogenic pep |
| 28 | 46 | 65.7 | 12 | 19 | AAW82886 | Antipathogenic pep |
| 29 | 46 | 65.7 | 12 | 19 | AAW82887 | Antipathogenic pep |
| 30 | 46 | 65.7 | 12 | 21 | AAB17414 | Antipathogenic pep |
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| 33 | 46 | 65.7 | 12 | 21 | AAB17421 | Antipathogenic pep |
| 34 | 46 | 65.7 | 12 | 21 | AAB17422 | Antipathogenic pep |
| 35 | 46 | 65.7 | 21 | 22 | AAU03187 | Membrane active sy |
| 36 | 46 | 65.7 | 21 | 22 | AAB60066 | KL3 membrane activ |
| 37 | 46 | 65.7 | 153 | 20 | AAY29393 | Sperm whale myoglo |
| 38 | 45 | 64.3 | 20 | 19 | AAW65895 | Amphipathic peptid |
| 39 | 45 | 64.3 | 20 | 21 | AAY49957 | Amphipathic peptid |
| 40 | 43 | 61.4 | 73 | 21 | AAB52057 | Human secreted pro |
| 41 | 42 | 60.0 | 1300 | 22 | ABB64083 | Drosophila melanog |
| 42 | 41.5 | 59.3 | 15 | 19 | AAW77384 | Lytic peptide with |
| 43 | 41 | 58.6 | 28 | 10 | AAP91335 | Amino acid sequenc |
| 44 | 40 | 57.1 | 14 | 16 | AAR67795 | Antimicrobial olig |
| 45 | 40 | 57.1 | 14 | 21 | AAB17122 | Calmodulin antagon |

ALIGNMENTS

RESULT 1
AAW82854
ID AAW82854 standard; peptide; 14 AA.
XX
AC AAW82854;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX

PS Claim 14; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 14 AA;

Query Match 100.0%; Score 70; DB 19; Length 14;
Best Local Similarity 100.0%; Pred. No. 0.00074;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CKLLLKLLLKLLKC 14
||||||||||||||
Db 1 cklllklllkllkc 14

RESULT 2
AAW82858
ID AAW82858 standard; peptide; 77 AA.
XX
AC AAW82858;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 17; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 77 AA;

Query Match 100.0%; Score 70; DB 19; Length 77;
Best Local Similarity 100.0%; Pred. No. 0.0035;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CKLLLKLLLKLLKC 14
||||||||||||||
Db 13 cklllklllkllkc 26

RESULT 3
AAW82855
ID AAW82855 standard; peptide; 14 AA.
XX
AC AAW82855;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 14; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which

```
CC   (comprises L-amino acid residues and D-amino acid residues, has a net
CC   positive charge greater than 1 and has an amino acid sequence such that
CC   a corresponding amino acid sequence comprising only L-amino acid residues
CC   is not found in nature. The cytolytic agents may be used for treatment of
CC   cancer or for treatment of several diseases caused by pathogens,
CC   including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC   They may be used in both human and veterinary medicine. They may also be
CC   used as disinfectants for destruction of microorganisms, i.e. in
CC   solutions for wetting contact lenses, as preservatives, e.g., in the
CC   cosmetic and food industries, as pesticides (e.g. fungicides or
CC   bactericides) or for preservation of agricultural products.
XX
SQ   Sequence   14 AA;


  Query Match             91.4%;  Score 64;  DB 19;  Length 14;
  Best Local Similarity   92.9%;  Pred. No. 0.0053;
  Matches   13;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLLKC 14
           ||||||| ||||||
Db       1 cklllklklkllkc 14


RESULT   4
AAW82859
ID   AAW82859 standard; peptide; 77 AA.
XX
AC   AAW82859;
XX
DT   19-MAY-1999  (first entry)
XX
DE   Antipathogenic peptide.
XX
KW   Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW   cancer; infection; disinfectant; contact lens wetting solution;
KW   preservative; pesticide; fungicide; bactericide.
XX
OS   Synthetic.
XX
PN   WO9837090-A1.
XX
PD   27-AUG-1998.
XX
PF   19-FEB-1998;   98WO-IL00081.
XX
PR   20-FEB-1997;   97WO-IL00066.
XX
PA   (YEDA ) YEDA RES & DEV CO LTD.
XX
PI   Oren Z,  Shai Y;
XX
DR   WPI; 1998-594464/50.
XX
PT   New non-haemolytic cytolytic agent useful in treating cancer or
PT   infections - is a peptide comprising a moiety which disrupts the
PT   continuity of an alpha-helical structure
XX
PS   Claim 17; Page 107; 126pp; English.
XX
CC   The present peptide is used to produce the agents of the invention. The
CC   specification describes a non-haemolytic, cytolytic agent, which is a
CC   peptide, a complex of bundled peptides, a mixture of peptides or a random
CC   peptide copolymer. The agent has a selective cytolytic activity on
CC   pathogenic cells. The agent is selected from a cyclic derivative of a
CC   peptide which has a net positive charge greater than 1, comprises L-amino
CC   acid residues and/or D-amino acid residues and comprises an alpha-helix
CC   breaker moiety, or  a peptide (or cyclic derivative of this) which
CC   (comprises L-amino acid residues and D-amino acid residues, has a net
CC   positive charge greater than 1 and has an amino acid sequence such that
CC   a corresponding amino acid sequence comprising only L-amino acid residues
CC   is not found in nature. The cytolytic agents may be used for treatment of
CC   cancer or for treatment of several diseases caused by pathogens,
CC   including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC   They may be used in both human and veterinary medicine. They may also be
CC   used as disinfectants for destruction of microorganisms, i.e. in
CC   solutions for wetting contact lenses, as preservatives, e.g., in the
CC   cosmetic and food industries, as pesticides (e.g. fungicides or
CC   bactericides) or for preservation of agricultural products.
XX
SQ   Sequence   77 AA;


  Query Match             91.4%;  Score 64;  DB 19;  Length 77;
  Best Local Similarity   92.9%;  Pred. No. 0.025;
  Matches   13;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLLKC 14
           ||||||| ||||||
Db      13 cklllklklkllkc 26


RESULT   5
AAW35231
ID   AAW35231 standard; peptide; 13 AA.
XX
AC   AAW35231;
XX
DT   14-APR-1998  (first entry)
XX
DE   Diastereomer peptide [D]-L3,4,8,10-K4L8C.
XX
KW   Diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW   Honey bee venom; pardaxin; cytolytic activity; cancer;
KW   non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW   agricultural pesticide; cell wall lysis.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 3
FT                   /note= "D-form residue"
FT   Misc-difference 4
FT                   /note= "D-form residue"
FT   Misc-difference 8
FT                   /note= "D-form residue"
FT   Misc-difference 10
FT                   /note= "D-form residue"
XX
PN   WO9731019-A2.
XX
PD   28-AUG-1997.
XX
PF   20-FEB-1997;   97WO-IL00066.
XX
PR   22-FEB-1996;   96IL-0117223.
XX
PA   (YEDA ) YEDA RES & DEV CO LTD.
XX
PI   Oren Z,  Shai Y;
XX
DR   WPI; 1997-435088/40.
XX
PT   Peptide(s) having selective cytolytic activity - against pathogens
PT   and malignant cells, but no haemolytic activity, used for treating
PT   infections and cancer
XX
PS   Example 7; Page 49; 80pp; English.
XX
CC   This sequence represents a diastereomer peptide of the invention. This
CC   sequence is used in a "bundle sequence", which is created by binding 5
CC   copies of this sequence to peptide 23 (see AAW35149). The peptides of
CC   the invention have: (a) cytolytic activity on pathogenic cells (pathogens
CC   and malignant cells not naturally present in the body); but (b) no
CC   haemolytic activity, or such activity only at a concentration
CC   significantly higher than that at which they lyse pathogens. The
```

CC peptides, their complexes and mixtures are used to treat infections
CC (caused by bacteria, fungi, protozoa, mycoplasma or viruses) or cancer,
CC in human and veterinary medicine. Also, they can be used as preservatives
CC for food, cosmetics and agricultural produce, or as agricultural
CC pesticides. The absence of haemolytic activity (associated with
CC disturbance of alpha-helical structures) means that the peptides have few
CC if any toxic effects, and those that include D-aa will have increased
CC resistance to proteolytic degradation. Non-haemolytic, cytotoxic random
CC copolymers of pardaxin, each has a specific spectrum of activity,
CC allowing selection of agents for particular applications. Since these
CC random copolymers induce total lysis of bacterial cell walls, resistance
CC to them is unlikely to develop.
XX
SQ Sequence 13 AA;

Query Match 87.1%; Score 61; DB 18; Length 13;
Best Local Similarity 100.0%; Pred. No. 0.013;
Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 KLLLKLLLKLLKC 14
||||||||||||||
Db 1 klllklllkllkc 13

RESULT 6
AAB17482
ID AAB17482 standard; Peptide; 13 AA.
XX
AC AAB17482;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:586.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 401; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 13 AA;

Query Match 87.1%; Score 61; DB 21; Length 13;
Best Local Similarity 100.0%; Pred. No. 0.013;
Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 KLLLKLLLKLLKC 14
||||||||||||||
Db 1 klllklllkllkc 13

RESULT 7
AAW35232
ID AAW35232 standard; peptide; 13 AA.
XX
AC AAW35232;
XX
DT 14-APR-1998 (first entry)
XX
DE Diastereomer peptide [D]-L3,4,8,10-K5L7C.
XX
KW Diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW Honey bee venom; pardaxin; cytolytic activity; cancer;
KW non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW agricultural pesticide; cell wall lysis.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 3
FT /note= "D-form residue"
FT Misc-difference 4
FT /note= "D-form residue"
FT Misc-difference 8
FT /note= "D-form residue"
FT Misc-difference 10
FT /note= "D-form residue"
XX
PN WO9731019-A2.
XX
PD 28-AUG-1997.
XX
PF 20-FEB-1997; 97WO-IL00066.
XX
PR 22-FEB-1996; 96IL-0117223.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1997-435088/40.
XX
PT Peptide(s) having selective cytolytic activity - against pathogens
PT and malignant cells, but no haemolytic activity, used for treating
PT infections and cancer
XX
PS Example 7; Page 50; 80pp; English.
XX
CC This sequence represents a diastereomer peptide of the invention. This
CC sequence is used in a "bundle sequence", which is created by binding 5

CC copies of this sequence to peptide 26 (see AAW35152). The peptides of
CC the invention have: (a) cytolytic activity on pathogenic cells (pathogens
CC and malignant cells not naturally present in the body); but (b) no
CC haemolytic activity, or such activity only at a concentration
CC significantly higher than that at which they lyse pathogens. The
CC peptides, their complexes and mixtures are used to treat infections
CC (caused by bacteria, fungi, protozoa, mycoplasma or viruses) or cancer,
CC in human and veterinary medicine. Also, they can be used as preservatives
CC for food, cosmetics and agricultural produce, or as agricultural
CC pesticides. The absence of haemolytic activity (associated with
CC disturbance of alpha-helical structures) means that the peptides have few
CC if any toxic effects, and those that include D-aa will have increased
CC resistance to proteolytic degradation. Non-haemolytic, cytotoxic random
CC copolymers of pardaxin, each has a specific spectrum of activity,
CC allowing selection of agents for particular applications. Since these
CC random copolymers induce total lysis of bacterial cell walls, resistance
CC to them is unlikely to develop.
XX
SQ Sequence 13 AA;

Query Match 78.6%; Score 55; DB 18; Length 13;
Best Local Similarity 92.3%; Pred. No. 0.094;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 2 KLLLKLLLKLLKC 14
|||||| ||||||
Db 1 klllklklkllkc 13

RESULT 8
AAB17484
ID AAB17484 standard; Peptide; 13 AA.
XX
AC AAB17484;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:588.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 401; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 13 AA;

Query Match 78.6%; Score 55; DB 21; Length 13;
Best Local Similarity 92.3%; Pred. No. 0.094;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 2 KLLLKLLLKLLKC 14
|||||| ||||||
Db 1 klllklklkllkc 13

RESULT 9
AAW35149
ID AAW35149 standard; peptide; 12 AA.
XX
AC AAW35149;
XX
DT 14-APR-1998 (first entry)
XX
DE Leu/Lys diastereomer peptide [D]-L3,4,8,10-K4L8.
XX
KW Leu/Lys diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW Honey bee venom; pardaxin; cytolytic activity; cancer;
KW non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW agricultural pesticide; cell wall lysis.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Misc-difference 3
FT /note= "D-form residue"
FT Misc-difference 4
FT /note= "D-form residue"
FT Misc-difference 8
FT /note= "D-form residue"
FT Misc-difference 10
FT /note= "D-form residue"
FT Modified-site 12
FT /note= "C-terminal amide"
XX
PN WO9731019-A2.
XX
PD 28-AUG-1997.
XX
PF 20-FEB-1997; 97WO-IL00066.
XX
PR 22-FEB-1996; 96IL-0117223.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1997-435088/40.
XX
PT Peptide(s) having selective cytolytic activity - against pathogens

```
PT   and malignant cells, but no haemolytic activity, used for treating
PT   infections and cancer
XX
PS   Claim 21; Page 39; 80pp; English.
XX
CC   This sequence represents a Leu/Lys diastereomer peptide of the
CC   invention. The peptides of the invention have: (a) cytolytic activity on
CC   pathogenic cells (pathogens and malignant cells not naturally present in
CC   the body); but (b) no haemolytic activity, or such activity only at a
CC   concentration significantly higher than that at which they lyse
CC   pathogens. The peptides, their complexes and mixtures are used to treat
CC   infections (caused by bacteria, fungi, protozoa, mycoplasma or viruses)
CC   or cancer, in human and veterinary medicine. Also, they can be used as
CC   preservatives for food, cosmetics and agricultural produce, or as
CC   agricultural pesticides. The absence of haemolytic activity (associated
CC   with disturbance of alpha-helical structures) means that the peptides
CC   have few if any toxic effects, and those that include D-aa will have
CC   increased resistance to proteolytic degradation. Non-haemolytic,
CC   cytotoxic random copolymers of pardaxin, each has a specific spectrum of
CC   activity, allowing selection of agents for particular applications. Since
CC   these random copolymers induce total lysis of bacterial cell walls,
CC   resistance to them is unlikely to develop.
XX
SQ   Sequence   12 AA;


  Query Match             74.3%;  Score 52;  DB 18;  Length 12;
  Best Local Similarity   100.0%;  Pred. No. 0.23;
  Matches   12;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 KLLLKLLLKLLK 13
          ||||||||||||
Db      1 klllklllkllk 12


RESULT  10
AAW35152
ID   AAW35152 standard; peptide; 12 AA.
XX
AC   AAW35152;
XX
DT   14-APR-1998  (first entry)
XX
DE   Leu/Lys diastereomer peptide [D]-K1,5,9,12L2,6,7,11-K4L8.
XX
KW   Leu/Lys diastereomer peptide; infection; therapy; excitatory neurotoxin;
KW   Honey bee venom; pardaxin; cytolytic activity; cancer;
KW   non-haemolytic; preservative; agricultural produce; bacterial cell lysis;
KW   agricultural pesticide; cell wall lysis.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1
FT                   /note= "D-form residue"
FT   Misc-difference 2
FT                   /note= "D-form residue"
FT   Misc-difference 5
FT                   /note= "D-form residue"
FT   Misc-difference 6
FT                   /note= "D-form residue"
FT   Misc-difference 7
FT                   /note= "D-form residue"
FT   Misc-difference 9
FT                   /note= "D-form residue"
FT   Misc-difference 11
FT                   /note= "D-form residue"
FT   Misc-difference 12
FT                   /note= "D-form residue"
FT   Modified-site   12
FT                   /note= "C-terminal amide"
XX
PN   WO9731019-A2.
XX
PD   28-AUG-1997.
XX
PF   20-FEB-1997;   97WO-IL00066.
XX
PR   22-FEB-1996;   96IL-0117223.
XX
PA   (YEDA ) YEDA RES & DEV CO LTD.
XX
PI   Oren Z,  Shai Y;
XX
DR   WPI; 1997-435088/40.
XX
PT   Peptide(s) having selective cytolytic activity - against pathogens
PT   and malignant cells, but no haemolytic activity, used for treating
PT   infections and cancer
XX
PS   Claim 21; Page 40; 80pp; English.
XX
CC   This sequence represents a Leu/Lys diastereomer peptide of the
CC   invention. The peptides of the invention have: (a) cytolytic activity on
CC   pathogenic cells (pathogens and malignant cells not naturally present in
CC   the body); but (b) no haemolytic activity, or such activity only at a
CC   concentration significantly higher than that at which they lyse
CC   pathogens. The peptides, their complexes and mixtures are used to treat
CC   infections (caused by bacteria, fungi, protozoa, mycoplasma or viruses)
CC   or cancer, in human and veterinary medicine. Also, they can be used as
CC   preservatives for food, cosmetics and agricultural produce, or as
CC   agricultural pesticides. The absence of haemolytic activity (associated
CC   with disturbance of alpha-helical structures) means that the peptides
CC   have few if any toxic effects, and those that include D-aa will have
CC   increased resistance to proteolytic degradation. Non-haemolytic,
CC   cytotoxic random copolymers of pardaxin, each has a specific spectrum of
CC   activity, allowing selection of agents for particular applications. Since
CC   these random copolymers induce total lysis of bacterial cell walls,
CC   resistance to them is unlikely to develop.
XX
SQ   Sequence   12 AA;


  Query Match             74.3%;  Score 52;  DB 18;  Length 12;
  Best Local Similarity   100.0%;  Pred. No. 0.23;
  Matches   12;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      2 KLLLKLLLKLLK 13
          ||||||||||||
Db      1 klllklllkllk 12


RESULT  11
AAW82847
ID   AAW82847 standard; peptide; 12 AA.
XX
AC   AAW82847;
XX
DT   19-MAY-1999  (first entry)
XX
DE   Antipathogenic peptide.
XX
KW   Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW   cancer; infection; disinfectant; contact lens wetting solution;
KW   preservative; pesticide; fungicide; bactericide.
XX
OS   Synthetic.
XX
PN   WO9837090-A1.
XX
PD   27-AUG-1998.
XX
PF   19-FEB-1998;   98WO-IL00081.
XX
PR   20-FEB-1997;   97WO-IL00066.
XX
```

PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 12; Page 105; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 12 AA;

Query Match 74.3%; Score 52; DB 19; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.23;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 KLLLKLLLKLLK 13
||||||||||||
Db 1 klllklllkllk 12

RESULT 12
AAW82850
ID AAW82850 standard; peptide; 12 AA.
XX
AC AAW82850;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX
PS Claim 13; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 12 AA;

Query Match 74.3%; Score 52; DB 19; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.23;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 KLLLKLLLKLLK 13
||||||||||||
Db 1 klllklllkllk 12

RESULT 13
AAW82856
ID AAW82856 standard; peptide; 12 AA.
XX
AC AAW82856;
XX
DT 19-MAY-1999 (first entry)
XX
DE Antipathogenic peptide.
XX
KW Non-haemolytic; cytolytic; selective cytolytic activity; pathogen;
KW cancer; infection; disinfectant; contact lens wetting solution;
KW preservative; pesticide; fungicide; bactericide.
XX
OS Synthetic.
XX
PN WO9837090-A1.
XX
PD 27-AUG-1998.
XX
PF 19-FEB-1998; 98WO-IL00081.
XX
PR 20-FEB-1997; 97WO-IL00066.
XX
PA (YEDA ) YEDA RES & DEV CO LTD.
XX
PI Oren Z, Shai Y;
XX
DR WPI; 1998-594464/50.
XX
PT New non-haemolytic cytolytic agent useful in treating cancer or
PT infections - is a peptide comprising a moiety which disrupts the
PT continuity of an alpha-helical structure
XX

PS Claim 14; Page 106; 126pp; English.
XX
CC The present peptide is used to produce the agents of the invention. The
CC specification describes a non-haemolytic, cytolytic agent, which is a
CC peptide, a complex of bundled peptides, a mixture of peptides or a random
CC peptide copolymer. The agent has a selective cytolytic activity on
CC pathogenic cells. The agent is selected from a cyclic derivative of a
CC peptide which has a net positive charge greater than 1, comprises L-amino
CC acid residues and/or D-amino acid residues and comprises an alpha-helix
CC breaker moiety, or a peptide (or cyclic derivative of this) which
CC (comprises L-amino acid residues and D-amino acid residues, has a net
CC positive charge greater than 1 and has an amino acid sequence such that
CC a corresponding amino acid sequence comprising only L-amino acid residues
CC is not found in nature. The cytolytic agents may be used for treatment of
CC cancer or for treatment of several diseases caused by pathogens,
CC including bacterial, fungal, viral, mycoplasma and protozoan infections.
CC They may be used in both human and veterinary medicine. They may also be
CC used as disinfectants for destruction of microorganisms, i.e. in
CC solutions for wetting contact lenses, as preservatives, e.g., in the
CC cosmetic and food industries, as pesticides (e.g. fungicides or
CC bactericides) or for preservation of agricultural products.
XX
SQ Sequence 12 AA;

Query Match 74.3%; Score 52; DB 19; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.23;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 KLLLKLLLKLLK 13
||||||||||||
Db 1 klllklllkllk 12

RESULT 14
AAB17413
ID AAB17413 standard; Peptide; 12 AA.
XX
AC AAB17413;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:517.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX

PS Claim 39; Page 378; 608pp; English.
XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 12 AA;

Query Match 74.3%; Score 52; DB 21; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.23;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 KLLLKLLLKLLK 13
||||||||||||
Db 1 klllklllkllk 12

RESULT 15
AAB17416
ID AAB17416 standard; Peptide; 12 AA.
XX
AC AAB17416;
XX
DT 31-OCT-2000 (first entry)
XX
DE Antipathogenic peptide sequence SEQ ID NO:520.
XX
KW Modified peptide; therapeutic agent; fusion; Fc domain; cancer;
KW autoimmune disease; cytostatic; antiasthmatic; thrombolytic; VEGF;
KW immunosuppressive; EPO; TPO; CTLA4; mimetic; IL-1; TNF; antagonist;
KW MMP; inhibitor; erythropoietin; thrombopoietin; interleukin 1;
KW cytotoxic T cell lymphocyte antigen 4; tumour necrosis factor;
KW vascular endothelial growth factor; matrix metalloproteinase;
KW asthma; thrombosis; pharmaceutical.
XX
OS Synthetic.
XX
PN WO200024782-A2.
XX
PD 04-MAY-2000.
XX
PF 25-OCT-1999; 99WO-US25044.
XX
PR 23-OCT-1998; 98US-0105371.
PR 22-OCT-1999; 99US-0428082.
XX
PA (AMGE-) AMGEN INC.
XX
PI Feige U, Liu C, Cheetham J, Boone TC;
XX
DR WPI; 2000-350702/30.
XX
PT Novel composition of matter comprising an Fc domain and
PT pharmacologically active peptides, useful for treating cancer and
PT autoimmune diseases -
XX
PS Claim 39; Page 379; 608pp; English.

XX
CC The present invention describes composition of matter (I) comprising an
CC Fc domain, pharmacologically active peptides, and linkers. Where (I) is:
CC (X1)a-F1-(X2)b, where: F1 = an Fc domain; X1 and X2 = are each
CC independently selected from -(L1)c-P1, -(L1)c-P1-(L2)d-P2,
CC -(L1)c-P1-(L2)d-P2-(L3)e-P^3, or -(L1)c-P1-(L2)d-P2-(L3)e-P3-(L4)f-P4
CC where P1, P2, P3, and P4 = are each independently sequences of
CC pharmacologically active peptides; L1, L2, L3, and L4 = are each
CC independently linkers; and a, b, c, d, e, and f = are each independently
CC 0 or 1, provided that at least 1 of a and b is 1. The composition can
CC have cytostatic, antiasthmatic, thrombolytic and immunosuppressive
CC activities. DNAs, vectors and host cells from the present invention can
CC be used for producing pharmaceutical compositions. The compositions are
CC useful for treating cancer, asthma, thrombosis, or autoimmune diseases.
CC The use of an Fc domain (rather than a Fab domain) can provide a longer
CC half-life or incorporate functions such as Fc receptor binding, protein
CC A binding, complement fixation, and possibly placental transfer. AAA69443
CC to AAA69526 and AAB16955 to AAB18003 represent nucleotide and amino acid
CC sequences used in the exemplification of the present invention.
XX
SQ Sequence 12 AA;

Query Match 74.3%; Score 52; DB 21; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.23;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      2 KLLLKLLLKLLK 13
          ||||||||||||
Db      1 klllklllkllk 12
```

Search completed: June 17, 2002, 12:41:23
Job time: 298 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:43:01 ; Search time 46.42 Seconds
(without alignments)
28.980 Million cell updates/sec

Title: US-09-367-714A-92
Perfect score: 70
Sequence: 1 CKLLLKLLLKLLKC 14

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_71:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 43 | 61.4 | 38 | 2 | B85632 | hypothetical prote |
| 2 | 40 | 57.1 | 169 | 2 | G72096 | hypothetical prote |
| 3 | 40 | 57.1 | 169 | 2 | E86525 | hypothetical prote |
| 4 | 40 | 57.1 | 314 | 2 | S50368 | probable membrane |
| 5 | 40 | 57.1 | 1880 | 2 | T18531 | tractin - medicina |
| 6 | 40 | 57.1 | 2513 | 2 | G96536 | hypothetical prote |
| 7 | 39 | 55.7 | 641 | 2 | G85043 | hypothetical prote |
| 8 | 38 | 54.3 | 30 | 2 | B44314 | intracisternal A p |
| 9 | 38 | 54.3 | 219 | 2 | A35650 | Sur protein - chic |
| 10 | 38 | 54.3 | 754 | 2 | A85043 | probable LRR recep |
| 11 | 38 | 54.3 | 1107 | 2 | T20578 | hypothetical prote |
| 12 | 38 | 54.3 | 1119 | 2 | T20577 | hypothetical prote |
| 13 | 37 | 52.9 | 83 | 2 | AH1734 | hypothetical prote |
| 14 | 37 | 52.9 | 116 | 2 | T41597 | hypothetical prote |
| 15 | 37 | 52.9 | 137 | 2 | A96914 | uncharacterized pr |
| 16 | 37 | 52.9 | 161 | 2 | T48285 | hypothetical prote |
| 17 | 37 | 52.9 | 230 | 2 | JC5418 | somatolactin precu |
| 18 | 37 | 52.9 | 238 | 2 | E71375 | probable ABC trans |
| 19 | 37 | 52.9 | 255 | 2 | A60637 | merozoite antigen |
| 20 | 37 | 52.9 | 275 | 2 | H71690 | hypothetical prote |
| 21 | 37 | 52.9 | 465 | 2 | T30155 | hypothetical prote |
| 22 | 37 | 52.9 | 481 | 2 | T22406 | hypothetical prote |
| 23 | 37 | 52.9 | 935 | 2 | S63261 | SEC21 protein - ye |
| 24 | 37 | 52.9 | 1030 | 2 | T16114 | hypothetical prote |
| 25 | 36 | 51.4 | 143 | 2 | S03747 | small membrane pro |
| 26 | 36 | 51.4 | 230 | 2 | JC2582 | somatolactin - Sen |
| 27 | 36 | 51.4 | 231 | 2 | A35793 | somatolactin - Jap |
| 28 | 36 | 51.4 | 238 | 2 | A31417 | prolactin-related |
| 29 | 36 | 51.4 | 375 | 2 | C64216 | hypothetical prote |
| 30 | 36 | 51.4 | 399 | 2 | T20204 | hypothetical prote |
| 31 | 36 | 51.4 | 438 | 2 | AH0031 | proton glutamate s |
| 32 | 36 | 51.4 | 568 | 2 | T17308 | hypothetical prote |
| 33 | 36 | 51.4 | 1661 | 2 | T31330 | head-activator bin |
| 34 | 36 | 51.4 | 1896 | 2 | T01490 | hypothetical prote |
| 35 | 35 | 50.0 | 39 | 2 | G85837 | hypothetical prote |
| 36 | 35 | 50.0 | 125 | 2 | I50498 | urotensin II-alpha |
| 37 | 35 | 50.0 | 164 | 2 | B72717 | hypothetical prote |
| 38 | 35 | 50.0 | 167 | 2 | H84493 | probable replicati |
| 39 | 35 | 50.0 | 179 | 2 | E75204 | hypothetical prote |
| 40 | 35 | 50.0 | 219 | 2 | C84647 | probable synaptobr |
| 41 | 35 | 50.0 | 235 | 2 | A49762 | somatolactin precu |
| 42 | 35 | 50.0 | 318 | 2 | C81386 | probable integral |
| 43 | 35 | 50.0 | 319 | 2 | A70102 | conserved hypothet |
| 44 | 35 | 50.0 | 373 | 2 | T18924 | hypothetical prote |
| 45 | 35 | 50.0 | 394 | 2 | T19116 | hypothetical prote |

ALIGNMENTS

RESULT 1
B85632
hypothetical protein Z1386 [imported] - Escherichia coli (strain O157:H7, substrain E
C;Species: Escherichia coli
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 14-Sep-2001
C;Accession: B85632
R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; May
iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apoda
Nature 409, 529-533, 2001
A;Title: Genome sequence of enterohemorrhagic Escherichia coli O157:H7.
A;Reference number: A85480; MUID:21074935; PMID:11206551
A;Accession: B85632
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-38 <STO>
A;Cross-references: GB:AE005174; NID:g12514232; PIDN:AAG55518.1; GSPDB:GN00145; UWGP:
A;Experimental source: strain O157:H7, substrain EDL933
C;Genetics:
A;Gene: Z1386

Query Match 61.4%; Score 43; DB 2; Length 38;
Best Local Similarity 42.9%; Pred. No. 2.1;
Matches 6; Conservative 6; Mismatches 2; Indels 0; Gaps 0;

```
Qy       1 CKLLLKLLLKLLKC 14
           |::|: :|||:: |
Db       6 CEILVNILLKMIGC 19
```

RESULT 2
G72096
hypothetical protein CP0481 [imported] - Chlamydophila pneumoniae (strains CWL029 and
C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 11-May-2000
C;Accession: G72096; C81573
R;Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood,
Nature Genet. 21, 385-389, 1999
A;Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis.
A;Reference number: A72000; MUID:99206606
A;Accession: G72096
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-169 <ARN>
A;Cross-references: GB:AE001613; GB:AE001363; NID:g4376550; PIDN:AAD18426.1; PID:g437
A;Experimental source: strain CWL029
R;Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hicke
, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzbe
Nucleic Acids Res. 28, 1397-1406, 2000
A;Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39
A;Reference number: A81500; MUID:20150255
A;Accession: C81573

A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-169 <REA>
A;Cross-references: GB:AE002209; GB:AE002161; NID:g7189393; PIDN:AAF38311.1; PID:g718939
A;Experimental source: strain AR39, HL cells
C;Genetics:
A;Gene: CPn0277; CP0481
C;Superfamily: Chlamydia pneumoniae hypothetical protein CPn0277

Query Match 57.1%; Score 40; DB 2; Length 169;
Best Local Similarity 50.0%; Pred. No. 23;
Matches 6; Conservative 6; Mismatches 0; Indels 0; Gaps 0;

Qy 3 LLLKLLLKLLKC 14
|:|::::||:||
Db 94 LVLQVIIKLIKC 105

RESULT 3
E86525
hypothetical protein CPj0277 [imported] - Chlamydophila pneumoniae (strain J138)
C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 23-Mar-2001
C;Accession: E86525
R;Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Is
Nucleic Acids Res. 28, 2311-2314, 2000
A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A;Reference number: A86491; MUID:20330349
A;Accession: E86525
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-169 <STO>
A;Cross-references: GB:BA000008; NID:g8978651; PIDN:BAA98487.1; GSPDB:GN00142
A;Experimental source: strain J138
C;Genetics:
A;Gene: CPj0277
C;Superfamily: Chlamydia pneumoniae hypothetical protein CPn0277

Query Match 57.1%; Score 40; DB 2; Length 169;
Best Local Similarity 50.0%; Pred. No. 23;
Matches 6; Conservative 6; Mismatches 0; Indels 0; Gaps 0;

Qy 3 LLLKLLLKLLKC 14
|:|::::||:||
Db 94 LVLQVIIKLIKC 105

RESULT 4
S50368
probable membrane protein YLR283w - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein L8003.9
C;Species: Saccharomyces cerevisiae
C;Date: 13-Jan-1995 #sequence_revision 20-Feb-1995 #text_change 05-Nov-1999
C;Accession: S50368
R;Pauley, A.
submitted to the EMBL Data Library, November 1994
A;Description: The sequence of S. cerevisiae cosmid 8003.
A;Reference number: S50366
A;Accession: S50368
A;Molecule type: DNA
A;Residues: 1-314 <PAU>
A;Cross-references: EMBL:U17243; NID:g596030; PID:g596039; GSPDB:GN00012; MIPS:YLR283w
C;Genetics:
A;Gene: MIPS:YLR283w
A;Map position: 12R
C;Keywords: transmembrane protein
F;263-279/Domain: transmembrane #status predicted <TMM>

Query Match 57.1%; Score 40; DB 2; Length 314;
Best Local Similarity 58.3%; Pred. No. 38;
Matches 7; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CKLLLKLLLKLL 12
||::: |||:||
Db 122 CKIIIALLLQLL 133

RESULT 5
T18531
tractin - medicinal leech
C;Species: Hirudo medicinalis (medicinal leech)
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 11-May-2000
C;Accession: T18531
R;Huang, Y.; Jellies, J.; Johansen, K.M.; Johansen, J.
J. Cell Biol. 138, 143-157, 1997
A;Title: Differential glycosylation of Tractin and LeechCAM, two novel Ig-superfamily
A;Reference number: Z18951; MUID:97362067
A;Accession: T18531
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-1880 <HUA>
A;Cross-references: EMBL:U92813; NID:g2275259; PID:g2275260; PIDN:AAC47654.1

Query Match 57.1%; Score 40; DB 2; Length 1880;
Best Local Similarity 64.3%; Pred. No. 1.7e+02;
Matches 9; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 CKLLLKLLLKLLKC 14
| ||| ||| :| |
Db 1758 CLLLLLLLLLILLC 1771

RESULT 6
G96536
hypothetical protein F2J10.9 [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Mar-2001
C;Accession: G96536
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alon
Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar,
ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim,
C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marzia
Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallo
ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719
A;Accession: G96536
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-2513 <STO>
A;Cross-references: GB:AE005173; NID:g8569097; PIDN:AAF76442.1; GSPDB:GN00141
C;Genetics:
A;Gene: F2J10.9
A;Map position: 1

Query Match 57.1%; Score 40; DB 2; Length 2513;
Best Local Similarity 90.9%; Pred. No. 2.1e+02;
Matches 10; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 3 LLLKLLLKLLK 13
||| |||||||
Db 797 LLLGLLLKLLK 807

RESULT 7
G85043
hypothetical protein AT4g03450 [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)

```
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 16-Feb-2001
C;Accession: G85043
R;anonymous, The European Union Arabidopsis Genome Sequencing Consortium, The Cold Sprin
Nature 402, 769-777, 1999
A;Title: Sequence and analysis of chromosome 4 of the plant Arabidopsis thaliana.
A;Reference number: A85001; MUID:20083488
A;Accession: G85043
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-641 <STO>
A;Cross-references: GB:NC_001268; NID:g7270215; PIDN:CAB77830.1; GSPDB:GN00140
C;Genetics:
A;Gene: AT4g03450
A;Map position: 4


  Query Match             55.7%;  Score 39;  DB 2;  Length 641;
  Best Local Similarity   70.0%;  Pred. No. 1e+02;
  Matches    7;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       5 LKLLLKLLKC 14
           :|: ||||||
Db     304 VKIFLKLLKC 313


RESULT   8
B44314
intracisternal A particle GAG protein - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 10-Jun-1993 #sequence_revision 18-Nov-1994 #text_change 12-Apr-1995
C;Accession: B44314
R;Brigle, K.E.; Westin, E.H.; Houghton, M.T.; Goldman, I.D.
J. Biol. Chem. 267, 22351-22355, 1992
A;Title: Insertion of an intracisternal A particle within the 5'-regulatory region of a
ith increased protein expression.
A;Reference number: A44314; MUID:93054523
A;Accession: B44314
A;Status: preliminary
A;Molecule type: DNA; protein
A;Residues: 1-30 <BRI>
A;Experimental source: L1210 leukemia cells LL1 subline
A;Note: sequence inconsistent with the nucleotide translation
A;Note: sequence extracted from NCBI backbone (NCBIN:117028, NCBIP:117029)
C;Superfamily: AIDS-related virus gag polyprotein


  Query Match             54.3%;  Score 38;  DB 2;  Length 30;
  Best Local Similarity   75.0%;  Pred. No. 11;
  Matches    9;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLL 12
           | |:||| ||||
Db      19 CYLVLKLGLKLL 30


RESULT   9
A35650
Sur protein - chicken
C;Species: Gallus gallus (chicken)
C;Date: 28-Sep-1990 #sequence_revision 28-Sep-1990 #text_change 21-Jul-2000
C;Accession: A35650
R;Dorai, T.; Wang, L.H.
Mol. Cell. Biol. 10, 4068-4079, 1990
A;Title: An alternative non-tyrosine protein kinase product of the c-src gene in chicken
A;Reference number: A35650; MUID:90318371
A;Accession: A35650
A;Status: preliminary; not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-219 <DOR>
A;Cross-references: GB:M57290; NID:g212703; PIDN:AAA49076.1; PID:g212704


  Query Match             54.3%;  Score 38;  DB 2;  Length 219;
  Best Local Similarity   50.0%;  Pred. No. 59;
  Matches    7;  Conservative    4;  Mismatches    3;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLLKC 14
           |:|:::|  | ||:|
Db      73 CELMIKCGLVLLQC 86


RESULT  10
A85043
probable LRR receptor-like protein kinase [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 16-Feb-2001
C;Accession: A85043
R;anonymous, The European Union Arabidopsis Genome Sequencing Consortium, The Cold Sp
Nature 402, 769-777, 1999
A;Title: Sequence and analysis of chromosome 4 of the plant Arabidopsis thaliana.
A;Reference number: A85001; MUID:20083488
A;Accession: A85043
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-754 <STO>
A;Cross-references: GB:NC_001268; NID:g7270209; PIDN:CAB77824.1; GSPDB:GN00140
C;Genetics:
A;Gene: AT4g03390
A;Map position: 4


  Query Match             54.3%;  Score 38;  DB 2;  Length 754;
  Best Local Similarity   75.0%;  Pred. No. 1.7e+02;
  Matches    9;  Conservative    0;  Mismatches    3;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLL 12
           | ||| ||| ||
Db       9 CLLLLPLLLSLL 20


RESULT  11
T20578
hypothetical protein F08B12.3b - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 18-Feb-2000
C;Accession: T20578
R;Dobson, R.
submitted to the EMBL Data Library, November 1995
A;Reference number: Z19295
A;Accession: T20578
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1107 <WIL>
A;Cross-references: EMBL:Z68104; PIDN:CAA92116.1; GSPDB:GN00028; CESP:F08B12.3b
A;Experimental source: clone F08B12
C;Genetics:
A;Gene: CESP:F08B12.3b
A;Map position: X
A;Introns: 38/2; 64/1; 112/2; 148/3; 173/3; 201/3; 348/3; 392/2; 452/1; 488/2; 538/2;


  Query Match             54.3%;  Score 38;  DB 2;  Length 1107;
  Best Local Similarity   50.0%;  Pred. No. 2.3e+02;
  Matches    7;  Conservative    3;  Mismatches    4;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLLKC 14
           | :|:|||  :| |
Db      70 CNVLIKLLTCILYC 83


RESULT  12
T20577
hypothetical protein F08B12.3a - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 18-Feb-2000
C;Accession: T20577
```

R;Dobson, R.
submitted to the EMBL Data Library, November 1995
A;Reference number: Z19295
A;Accession: T20577
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1119 <WIL>
A;Cross-references: EMBL:Z68104; PIDN:CAA92115.1; GSPDB:GN00028; CESP:F08B12.3a
A;Experimental source: clone F08B12
C;Genetics:
A;Gene: CESP:F08B12.3a
A;Map position: X
A;Introns: 38/2; 64/1; 112/2; 148/3; 173/3; 201/3; 348/3; 392/2; 452/1; 488/2; 538/2; 80

Query Match 54.3%; Score 38; DB 2; Length 1119;
Best Local Similarity 50.0%; Pred. No. 2.3e+02;
Matches 7; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

Qy 1 CKLLLKLLLKLLKC 14
| :|:||| :| |
Db 70 CNVLIKLLTCILYC 83

RESULT 13
AH1734
hypothetical protein lin2421 [imported] - Listeria innocua (strain Clip11262)
C;Species: Listeria innocua
C;Date: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 27-Nov-2001
C;Accession: AH1734
R;Glaser, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Bloecker
.; Dominguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; Fsihi, H.
D.; Jones, L.M.; Karst, U.
Science 294, 849-852, 2001
A;Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; Ma
ok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehland,
A;Title: Comparative genomics of Listeria species.
A;Reference number: AB1077; MUID:21537279; PMID:11679669
A;Accession: AH1734
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-83 <GLA>
A;Cross-references: GB:AL592022; PIDN:CAC97648.1; PID:g16414943; GSPDB:GN00178
A;Experimental source: strain Clip11262
C;Genetics:
A;Gene: lin2421

Query Match 52.9%; Score 37; DB 2; Length 83;
Best Local Similarity 63.6%; Pred. No. 38;
Matches 7; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 4 LLKLLLKLLKC 14
:| || |:|||
Db 50 MLPLLAKILKC 60

RESULT 14
T41597
hypothetical protein SPCC757.06 - fission yeast (Schizosaccharomyces pombe)
C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999
C;Accession: T41597
R;Lyne, M.; Rajandream, M.A.; Barrell, B.G.; Bothe, G.; Pohl, T.
submitted to the EMBL Data Library, October 1998
A;Reference number: Z22003
A;Accession: T41597
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-116 <LYN>
A;Cross-references: EMBL:AL031825; PIDN:CAA21231.1; GSPDB:GN00068; SPDB:SPCC757.06
A;Experimental source: strain 972h-; cosmid c757
C;Genetics:
A;Gene: SPDB:SPCC757.06
A;Map position: 3
A;Introns: 10/3; 48/3

Query Match 52.9%; Score 37; DB 2; Length 116;
Best Local Similarity 46.2%; Pred. No. 51;
Matches 6; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

Qy 2 KLLLKLLLKLLKC 14
| |:||::|: |
Db 82 KFLIKLIVKMTDC 94

RESULT 15
A96914
uncharacterized protein, Yje/RRF2 family [imported] - Clostridium acetobutylicum
C;Species: Clostridium acetobutylicum
C;Date: 14-Sep-2001 #sequence_revision 14-Sep-2001 #text_change 14-Sep-2001
C;Accession: A96914
R;Nolling, J.; Breton, G.; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; L
.; Daly, M.J.; Bennett, G.N.; Koonin, E.V.; Smith, D.R.
J. Bacteriol. 183, 4823-4838, 2001
A;Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium
A;Reference number: A96900; MUID:21359325; PMID:21359325
A;Accession: A96914
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-137 <KUR>
A;Cross-references: GB:AE001437; PIDN:AAK78100.1; PID:g15022941; GSPDB:GN00168
A;Experimental source: Clostridium acetobutylicum ATCC824
C;Genetics:
A;Gene: CAC0115

Query Match 52.9%; Score 37; DB 2; Length 137;
Best Local Similarity 66.7%; Pred. No. 58;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 2 KLLLKLLLKLLK 13
: ||||| ||:|
Db 40 RFLLKLLRKLIK 51

Search completed: June 17, 2002, 12:43:02
Job time: 257 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:44:47 ; Search time 21.35 Seconds
(without alignments)
25.390 Million cell updates/sec

Title: US-09-367-714A-92
Perfect score: 70
Sequence: 1 CKLLLKLLLKLLKC 14

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 40 | 57.1 | 229 | 1 | SOML_TETMU | Q9i9h4 tetraodon m |
| 2 | 40 | 57.1 | 231 | 1 | SOM1_SPAAU | P54863 sparus aura |
| 3 | 40 | 57.1 | 231 | 1 | SOM2_SPAAU | P79894 sparus aura |
| 4 | 40 | 57.1 | 231 | 1 | SOML_SCIOC | Q9ygk7 sciaenops o |
| 5 | 40 | 57.1 | 231 | 1 | SOML_SIGGU | Q9pwg4 siganus gut |
| 6 | 37 | 52.9 | 230 | 1 | SOML_CARAU | P79697 carassius a |
| 7 | 37 | 52.9 | 238 | 1 | Y035_TREPA | O83078 treponema p |
| 8 | 37 | 52.9 | 255 | 1 | LP61_EIMTE | P15714 eimeria ten |
| 9 | 37 | 52.9 | 935 | 1 | COPG_YEAST | P32074 saccharomyc |
| 10 | 36 | 51.4 | 143 | 1 | EAG_BACSU | P06630 bacillus su |
| 11 | 36 | 51.4 | 230 | 1 | SOML_HIPHI | P45641 hippoglossu |
| 12 | 36 | 51.4 | 230 | 1 | SOML_SOLSE | P45642 solea seneg |
| 13 | 36 | 51.4 | 231 | 1 | SOML_PAROL | P20362 paralichthy |
| 14 | 36 | 51.4 | 238 | 1 | PRR1_BOVIN | P05402 bos taurus |
| 15 | 36 | 51.4 | 375 | 1 | Y147_MYCGE | P47393 mycoplasma |
| 16 | 36 | 51.4 | 2353 | 1 | CCAH_HUMAN | O95180 homo sapien |
| 17 | 35 | 50.0 | 125 | 1 | UR2A_CYPCA | P04560 cyprinus ca |
| 18 | 35 | 50.0 | 232 | 1 | SOML_ACITR | O93262 acipenser t |
| 19 | 35 | 50.0 | 235 | 1 | SOML_GADMO | P21919 gadus morhu |
| 20 | 35 | 50.0 | 242 | 1 | MTGA_KLEPN | Q48465 klebsiella |
| 21 | 35 | 50.0 | 492 | 1 | SYYM_YEAST | P48527 saccharomyc |
| 22 | 35 | 50.0 | 1033 | 1 | YDK9_SCHPO | P87115 schizosacch |
| 23 | 35 | 50.0 | 1997 | 1 | OTOF_HUMAN | Q9hc10 homo sapien |
| 24 | 34.5 | 49.3 | 1916 | 1 | RIF1_YEAST | P29539 saccharomyc |
| 25 | 34 | 48.6 | 125 | 1 | UR2G_CYPCA | P06580 cyprinus ca |
| 26 | 34 | 48.6 | 139 | 1 | IGF_MYXGL | P22618 myxine glut |
| 27 | 34 | 48.6 | 156 | 1 | ECP3_MOUSE | O35290 mus musculu |
| 28 | 34 | 48.6 | 227 | 1 | PRRA_RAT | P09320 rattus norv |
| 29 | 34 | 48.6 | 235 | 1 | RPSE_CLOAB | P33657 clostridium |
| 30 | 34 | 48.6 | 403 | 1 | SHBG_RAT | P08689 rattus norv |
| 31 | 34 | 48.6 | 433 | 1 | XTMB_BACSU | P39786 bacillus su |
| 32 | 34 | 48.6 | 460 | 1 | CDS1_SCHPO | Q09170 schizosacch |
| 33 | 34 | 48.6 | 493 | 1 | CAMA_CHICK | P05099 gallus gall |
| 34 | 34 | 48.6 | 515 | 1 | DLTA_STRMU | Q53526 streptococc |
| 35 | 34 | 48.6 | 576 | 1 | ACH2_DROME | P17644 drosophila |
| 36 | 34 | 48.6 | 742 | 1 | PURL_BACSU | P12042 bacillus su |
| 37 | 34 | 48.6 | 821 | 1 | TRKB_MOUSE | P15209 mus musculu |
| 38 | 34 | 48.6 | 821 | 1 | TRKB_RAT | Q63604 rattus norv |
| 39 | 34 | 48.6 | 901 | 1 | PHSG_YEAST | P06738 saccharomyc |
| 40 | 34 | 48.6 | 984 | 1 | DPOL_NPVAC | P18131 autographa |
| 41 | 34 | 48.6 | 986 | 1 | DPOL_NPVBM | P41712 bombyx mori |
| 42 | 34 | 48.6 | 1333 | 1 | CC25_CANAL | P43069 candida alb |
| 43 | 33 | 47.1 | 31 | 1 | LPL_BUCRP | Q53017 buchnera ap |
| 44 | 33 | 47.1 | 93 | 1 | YO08_BPHP1 | P51709 bacteriopha |
| 45 | 33 | 47.1 | 99 | 1 | PD11_MOUSE | P56983 mus musculu |

ALIGNMENTS

RESULT 1
SOML_TETMU
ID SOML_TETMU STANDARD; PRT; 229 AA.
AC Q9I9H4;
DT 01-MAR-2002 (Rel. 41, Created)
DT 01-MAR-2002 (Rel. 41, Last sequence update)
DT 01-MAR-2002 (Rel. 41, Last annotation update)
DE Somatolactin precursor (SL).
OS Tetraodon miurus (Congo puffer).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
OC Tetraodontidae; Tetraodon.
OX NCBI_TaxID=94908;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary;
RA Rand-Weaver M., May D.;
RT "Cloning and sequencing of Tetraodon miurus somatolactin.";
RL Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: PITUITARY GLAND.
CC -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC ---

CC ---
DR EMBL; AF253066; AAF64522.1; -.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Glycoprotein; Signal.
FT SIGNAL 1 21 POTENTIAL.
FT CHAIN 22 229 SOMATOLACTIN.
FT DISULFID 26 36 BY SIMILARITY.
FT DISULFID 87 203 BY SIMILARITY.
FT DISULFID 220 228 BY SIMILARITY.
FT CARBOHYD 143 143 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 229 AA; 26125 MW; C10CCF295D28C447 CRC64;

Query Match 57.1%; Score 40; DB 1; Length 229;
Best Local Similarity 70.0%; Pred. No. 12;
Matches 7; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Qy 5 LKLLLKLLKC 14
:::|||||||
Db 211 IEILLKLLKC 220

```
RESULT   2
SOM1_SPAAU
ID   SOM1_SPAAU     STANDARD;      PRT;   231 AA.
AC   P54863;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   15-JUL-1999 (Rel. 38, Last annotation update)
DE   Somatolactin 1 precursor (SL).
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pituitary;
RX   MEDLINE=97114243; PubMed=8954766;
RA   Astola A., Pendon C., Ortiz M., Valdivia M.M.;
RT   "Cloning and expression of somatolactin, a pituitary hormone related
RT   to growth hormone and prolactin from gilthead seabream, Sparus
RT   aurata.";
RL   Gen. Comp. Endocrinol. 104:330-336(1996).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: PITUITARY GLAND.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L49205; AAA98734.1; -.
DR   HSSP; P01246; 1BST.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL       1     24       POTENTIAL.
FT   CHAIN       25    231       SOMATOLACTIN 1.
FT   DISULFID    29     39       BY SIMILARITY.
FT   DISULFID    89    205       BY SIMILARITY.
FT   DISULFID   222    230       BY SIMILARITY.
FT   CARBOHYD   145    145       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   231 AA;  26961 MW;  67A44E7D43E02504 CRC64;


  Query Match             57.1%;  Score 40;  DB 1;  Length 231;
  Best Local Similarity   70.0%;  Pred. No. 12;
  Matches    7;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       5 LKLLLKLLKC 14
           :::|||||||
Db     213 MEILLKLLKC 222


RESULT   3
SOM2_SPAAU
ID   SOM2_SPAAU     STANDARD;      PRT;   231 AA.
AC   P79894;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Somatolactin 2 precursor (SL).
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pituitary;
RA   Cavari B., Funkenstein B., Kawauchi H.;
RL   Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: PITUITARY GLAND.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; Y11144; CAA72031.1; -.
DR   HSSP; P01246; 1BST.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL       1     24       POTENTIAL.
FT   CHAIN       25    231       SOMATOLACTIN 2.
FT   DISULFID    29     39       BY SIMILARITY.
FT   DISULFID    89    205       BY SIMILARITY.
FT   DISULFID   222    230       BY SIMILARITY.
FT   CARBOHYD   145    145       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   231 AA;  26765 MW;  09C774C68DE08BA1 CRC64;


  Query Match             57.1%;  Score 40;  DB 1;  Length 231;
  Best Local Similarity   70.0%;  Pred. No. 12;
  Matches    7;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       5 LKLLLKLLKC 14
           :::|||||||
Db     213 MEILLKLLKC 222


RESULT   4
SOML_SCIOC
ID   SOML_SCIOC     STANDARD;      PRT;   231 AA.
AC   Q9YGK7;
DT   01-MAR-2002 (Rel. 41, Created)
DT   01-MAR-2002 (Rel. 41, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Somatolactin precursor (SL).
OS   Sciaenops ocellatus (Red drum).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sciaenidae; Sciaenops.
OX   NCBI_TaxID=76340;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pituitary;
RX   MEDLINE=99102183; PubMed=9882545;
RA   Zhu Y., Yoshiura Y., Kikuchi K., Aida K., Thomas P.;
RT   "Cloning and phylogenetic relationship of red drum somatolactin cDNA
RT   and effects of light on pituitary somatolactin mRNA expression.";
RL   Gen. Comp. Endocrinol. 113:69-79(1999).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: PITUITARY GLAND.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   ----------------------------------------------------------------------
DR   EMBL; AF062520; AAD17534.1; -.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL        1     24       POTENTIAL.
FT   CHAIN        25    231       SOMATOLACTIN.
FT   DISULFID     29     39       BY SIMILARITY.
FT   DISULFID     89    205       BY SIMILARITY.
FT   DISULFID    222    230       BY SIMILARITY.
FT   CARBOHYD    145    145       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   231 AA;  26658 MW;  4FB039DEE6EDBD01 CRC64;


  Query Match             57.1%;  Score 40;  DB 1;  Length 231;
  Best Local Similarity   70.0%;  Pred. No. 12;
  Matches    7;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       5 LKLLLKLLKC 14
           :::|||||||
Db     213 MEILLKLLKC 222


RESULT   5
SOML_SIGGU
ID   SOML_SIGGU     STANDARD;      PRT;   231 AA.
AC   Q9PWG4;
DT   01-MAR-2002 (Rel. 41, Created)
DT   01-MAR-2002 (Rel. 41, Last sequence update)
DT   01-MAR-2002 (Rel. 41, Last annotation update)
DE   Somatolactin precursor (SL).
OS   Siganus guttatus (Rabbitfish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes;
OC   Acanthuroidei; Siganidae; Siganus.
OX   NCBI_TaxID=92439;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pituitary;
RA   Ayson F.G., de Jesus E.T., Amemiya Y., Moriyama S., Hirano T.,
RA   Kawauchi H.;
RT   "Isolation and cDNA cloning of somatolactin in rabbitfish (Siganus
RT   guttatus).";
RL   Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: PITUITARY GLAND.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC   ----------------------------------------------------------------------
DR   EMBL; AB026186; BAA83467.1; -.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL        1     24       POTENTIAL.
FT   CHAIN        25    231       SOMATOLACTIN.
FT   DISULFID     29     39       BY SIMILARITY.
FT   DISULFID     89    205       BY SIMILARITY.
FT   DISULFID    222    230       BY SIMILARITY.
FT   CARBOHYD     35     35       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    145    145       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   231 AA;  26594 MW;  09A9CD5EE13840AC CRC64;


  Query Match             57.1%;  Score 40;  DB 1;  Length 231;
  Best Local Similarity   70.0%;  Pred. No. 12;
  Matches    7;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       5 LKLLLKLLKC 14
           :::|||||||
Db     213 MEILLKLLKC 222


RESULT   6
SOML_CARAU
ID   SOML_CARAU     STANDARD;      PRT;   230 AA.
AC   P79697;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   15-JUL-1999 (Rel. 38, Last annotation update)
DE   Somatolactin precursor (SL).
OS   Carassius auratus (Goldfish).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
OC   Cypriniformes; Cyprinidae; Carassius.
OX   NCBI_TaxID=7957;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=97242175; PubMed=9125164;
RA   Cheng K.W., Chan Y.H., Chen Y.D., Yu K.L., Chan K.M.;
RT   "Sequence of a cDNA clone encoding a novel somatolactin in goldfish,
RT   Carassius auratus.";
RL   Biochem. Biophys. Res. Commun. 232:282-287(1997).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC   ----------------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; U72940; AAC60098.1; -.
DR   HSSP; P01246; 1BST.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PROSITE; PS00266; SOMATOTROPIN_1; FALSE_NEG.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL        1     23       POTENTIAL.
FT   CHAIN        24    230       SOMATOLACTIN.
FT   DISULFID     28     38       BY SIMILARITY.
FT   DISULFID     87    202       BY SIMILARITY.
FT   DISULFID    219    227       BY SIMILARITY.
FT   CARBOHYD    226    226       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   230 AA;  25735 MW;  CBC5DB347C6116DC CRC64;


  Query Match             52.9%;  Score 37;  DB 1;  Length 230;
  Best Local Similarity   70.0%;  Pred. No. 36;
  Matches    7;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       5 LKLLLKLLKC 14
           :: |||||||
Db     210 IQTLLKLLKC 219
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RESULT   7
Y035_TREPA
ID   Y035_TREPA      STANDARD;      PRT;   238 AA.
AC   O83078;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Probable metal transport system ATP-binding protein TP0035.
GN   TP0035.
OS   Treponema pallidum.
OC   Bacteria; Spirochaetales; Spirochaetaceae; Treponema.
OX   NCBI_TaxID=160;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=NICHOLS;
RX   MEDLINE=98332770; PubMed=9665876;
RA   Fraser C.M., Norris S.J., Weinstock G.M., White O., Sutton G.G.,
RA   Dodson R., Gwinn M., Hickey E.K., Clayton R., Ketchum K.A.,
RA   Sodergren E., Hardham J.M., McLeod M.P., Salzberg S., Peterson J.,
RA   Khalak H., Richardson D., Howell J.K., Chidambaram M., Utterback T.,
RA   McDonald L., Artiach P., Bowman C., Cotton M.D., Fujii C., Garland S.,
RA   Hatch B., Horst K., Roberts K., Sandusky M., Weidman J., Smith H.O.,
RA   Venter J.C.;
RT   "Complete genome sequence of Treponema pallidum, the syphilis
RT   spirochete.";
RL   Science 281:375-388(1998).
CC   -!- FUNCTION: PART OF AN ATP-DRIVEN TRANSPORT SYSTEM
CC       TP0034/TP0035/TP0036 FOR A METAL. PROBABLY RESPONSIBLE FOR ENERGY
CC       COUPLING TO THE TRANSPORT SYSTEM.
CC   -!- SUBCELLULAR LOCATION: Inner membrane-associated (Potential).
CC   -!- SIMILARITY: BELONGS TO THE ABC TRANSPORTER FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; AE001188; AAC65030.1; -.
DR   TIGR; TP0035; -.
DR   InterPro; IPR003439; ABC_transportr.
DR   InterPro; IPR001687; ATP_GTP_A.
DR   Pfam; PF00005; ABC_tran; 1.
DR   PROSITE; PS00211; ABC_TRANSPORTER; FALSE_NEG.
KW   Hypothetical protein; Transport; Inner membrane; ATP-binding;
KW   Complete proteome.
FT   NP_BIND      44     51       ATP (POTENTIAL).
SQ   SEQUENCE   238 AA;  26460 MW;  673E7B4882BE4D29 CRC64;

  Query Match             52.9%;  Score 37;  DB 1;  Length 238;
  Best Local Similarity   80.0%;  Pred. No. 37;
  Matches    8;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       4 LLKLLLKLLK 13
           |:||:|||||
Db      53 LVKLVLKLLK 62


RESULT   8
LP61_EIMTE
ID   LP61_EIMTE      STANDARD;      PRT;   255 AA.
AC   P15714;
DT   01-APR-1990 (Rel. 14, Created)
DT   01-APR-1990 (Rel. 14, Last sequence update)
DT   01-FEB-1994 (Rel. 28, Last annotation update)
DE   Antigen LPMC-61 (Fragment).
OS   Eimeria tenella.
OC   Eukaryota; Alveolata; Apicomplexa; Coccidia; Eimeriida; Eimeriidae;
OC   Eimeria.
OX   NCBI_TaxID=5802;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Sporozoite;
RX   MEDLINE=90348718; PubMed=2200963;
RA   Ko C., Smith C.K. II, McDonell M.;
RT   "Identification and characterization of a target antigen of a
RT   monoclonal antibody directed against Eimeria tenella merozoites.";
RL   Mol. Biochem. Parasitol. 41:53-64(1990).
CC   -!- FUNCTION: UNKNOWN. THE GLN-RICH TANDEM REPEATS MAY BE IMPORTANT
CC       FOR AN UNKNOWN ASPECT OF THE PARASITIC LIFE CYCLE. MAY BE AN
CC       IMPORTANT IMMUNOGEN.
CC   -!- SUBUNIT: MAY BE COVALENTLY LINKED BY DISULFIDE BONDS TO OTHER
CC       POLYPEPTIDES TO FORM THE 80 kDa ANTIGEN.
CC   -!- DEVELOPMENTAL STAGE: PRESENT IN ALL STAGES THROUGHOUT THE
CC       SPORULATION OF THE OOCYSTS AND IN THE SPOROZOITES FOLLOWING
CC       EXCYSTATION.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M30933; AAA29079.1; -.
DR   PIR; A60637; A60637.
KW   Antigen; Sporozoite; Repeat; Sporulation.
FT   NON_TER       1      1
FT   DOMAIN       18    210       12 X APPROXIMATE TANDEM REPEATS, GLN-
FT                                 RICH.
FT   REPEAT       18     48       1.
FT   REPEAT       49     57       2.
FT   REPEAT       58     65       3.
FT   REPEAT       66     78       4.
FT   REPEAT       79     90       5.
FT   REPEAT       91    103       6.
FT   REPEAT      104    140       7.
FT   REPEAT      141    152       8.
FT   REPEAT      153    164       9.
FT   REPEAT      165    172       10.
FT   REPEAT      173    192       11.
FT   REPEAT      193    210       12.
FT   NON_TER     255    255
SQ   SEQUENCE   255 AA;  31267 MW;  8C5E6005FFFC2DB3 CRC64;

  Query Match             52.9%;  Score 37;  DB 1;  Length 255;
  Best Local Similarity   81.8%;  Pred. No. 39;
  Matches    9;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLL 12
           :|||||||:||
Db       2 RLLLKLLLLLL 12


RESULT   9
COPG_YEAST
ID   COPG_YEAST      STANDARD;      PRT;   935 AA.
AC   P32074;
DT   01-OCT-1993 (Rel. 27, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Coatomer gamma subunit (Gamma-coat protein) (Gamma-COP).
GN   SEC21 OR YNL287W OR N0543.
OS   Saccharomyces cerevisiae (Baker's yeast).
OC   Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
OC   Saccharomycetales; Saccharomycetaceae; Saccharomyces.
OX   NCBI_TaxID=4932;
RN   [1]
RP   SEQUENCE FROM N.A.
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RX   MEDLINE=93096049; PubMed=1461285;
RA   Hosobuchi M.M., Kreis T., Schekman R.;
RT   "SEC21 is a gene required for ER to Golgi protein transport that
RT   encodes a subunit of a yeast coatomer.";
RL   Nature 360:603-605(1992).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Messenguy F., Dubois E., Vierendeels F., Scherens B., Pierard A.,
RA   Glansdorff N.;
RL   Submitted (MAY-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: THE COATOMER IS A CYTOSOLIC PROTEIN COMPLEX THAT BINDS
CC       TO DILYSINE MOTIFS AND REVERSIBLY ASSOCIATES WITH GOLGI NON-
CC       CLATHRIN-COATED VESICLES, WHICH FURTHER MEDIATE BIOSYNTHETIC
CC       PROTEIN TRANSPORT FROM THE ER, VIA THE GOLGI UP TO THE TRANS GOLGI
CC       NETWORK. COATOMER COMPLEX IS REQUIRED FOR BUDDING FROM GOLGI
CC       MEMBRANES, AND IS ESSENTIAL FOR THE RETROGRADE GOLGI-TO-ER
CC       TRANSPORT OF DILYSINE-TAGGED PROTEINS (BY SIMILARITY).
CC   -!- SUBUNIT: OLIGOMERIC COMPLEX THAT CONSISTS OF AT LEAST THE ALPHA,
CC       BETA, BETA', GAMMA, DELTA, EPSILON AND ZETA SUBUNITS.
CC   -!- SUBCELLULAR LOCATION: THE COATOMER IS CYTOPLASMIC OR POLYMERIZED
CC       ON THE CYTOPLASMIC SIDE OF THE GOLGI, AS WELL AS ON THE
CC       VESICLES/BUDS ORIGINATING FROM IT (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE COPG FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; M59708; AAA34598.1; -.
DR   EMBL; Z71563; CAA96204.1; -.
DR   PIR; A33151; A33151.
DR   PIR; S28915; S28915.
DR   SGD; S0005231; SEC21.
DR   InterPro; IPR002553; Adaptin_N.
DR   Pfam; PF01602; Adaptin_N; 1.
KW   Transport; Protein transport; Golgi stack; Membrane.
FT   CONFLICT    353    353       D -> N (IN REF. 1).
SQ   SEQUENCE   935 AA;  104830 MW;  99DC7D737D4EF761 CRC64;


  Query Match             52.9%;  Score 37;  DB 1;  Length 935;
  Best Local Similarity   58.3%;  Pred. No. 1.3e+02;
  Matches    7;  Conservative    3;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLL 12
           |:||:  ||:||
Db      41 CRLLISRLLRLL 52


RESULT  10
EAG_BACSU
ID   EAG_BACSU      STANDARD; .     PRT;   143 AA.
AC   P06630;
DT   01-JAN-1988 (Rel. 06, Created)
DT   01-JAN-1988 (Rel. 06, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Hypothetical 16.4 kDa protein in SPO0E 3'region.
GN   EAG.
OS   Bacillus subtilis.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group;
OC   Bacillus/Staphylococcus group; Bacillus.
OX   NCBI_TaxID=1423;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=168;
RX   MEDLINE=88260878; PubMed=2838724;
RA   Perego M., Hoch J.A.;
RT   "Isolation and sequence of the spo0E gene: its role in initiation of
RT   sporulation in Bacillus subtilis.";
RL   Mol. Microbiol. 1:125-132(1987).
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CC   ---------------------------------------------------------------------
DR   EMBL; Y00526; CAA68584.1; -.
DR   EMBL; Z99111; CAB13238.1; -.
DR   PIR; S03747; S03747.
DR   SubtiList; BG10770; eag.
KW   Hypothetical protein; Sporulation; Complete proteome.
SQ   SEQUENCE   143 AA;  16429 MW;  D7410B50963D7A75 CRC64;


  Query Match             51.4%;  Score 36;  DB 1;  Length 143;
  Best Local Similarity   63.6%;  Pred. No. 34;
  Matches    7;  Conservative    3;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       3 LLLKLLLKLLK 13
           ||||:||: :|
Db     114 LLLKMLLRFIK 124


RESULT  11
SOML_HIPHI
ID   SOML_HIPHI     STANDARD;      PRT;   230 AA.
AC   P45641;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   Somatolactin precursor (SL).
OS   Hippoglossus hippoglossus (Atlantic halibut).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC   Pleuronectoidei; Pleuronectidae; Hippoglossus.
OX   NCBI_TaxID=8267;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=93372995; PubMed=7689905;
RA   Iraqi F., Gong Z., Hew C.L., Crim L.W.;
RT   "Isolation and characterization of somatolactin genes from two cold
RT   water marine teleosts, lumpfish (Cyclopterus lumpus) and halibut
RT   (Hippoglossus hippoglossus).";
RL   Mol. Mar. Biol. Biotechnol. 2:96-103(1993).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; L02117; AAC38003.1; -.
DR   HSSP; P01246; 1BST.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL        1     23       POTENTIAL.
FT   CHAIN        24    230       SOMATOLACTIN.
FT   DISULFID     28     38       BY SIMILARITY.
FT   DISULFID     88    204       BY SIMILARITY.
FT   DISULFID    221    229       BY SIMILARITY.
```

```
FT   CARBOHYD    137    137       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    144    144       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   230 AA;  26519 MW;  1E3C16622F75946A CRC64;


  Query Match             51.4%;  Score 36;  DB 1;  Length 230;
  Best Local Similarity   60.0%;  Pred. No. 51;
  Matches    6;  Conservative    3;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      5 LKLLLKLLKC 14
          ::: ||||||
Db    212 MEIFLKLLKC 221


RESULT  12
SOML_SOLSE
ID   SOML_SOLSE     STANDARD;      PRT;   230 AA.
AC   P45642;
DT   01-NOV-1995 (Rel. 32, Created)
DT   01-NOV-1995 (Rel. 32, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   Somatolactin precursor (SL).
OS   Solea senegalensis (Sole).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC   Soleoidei; Soleidae; Solea.
OX   NCBI_TaxID=28829;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Pituitary;
RX   MEDLINE=95011619; PubMed=7926805;
RA   Pendon C., Martinez-Barbera J.P., Valdivia M.M.;
RT   "Cloning of a somatolactin-encoding cDNA from sole (Solea
RT   senegalensis).";
RL   Gene 147:227-230(1994).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: PITUITARY GLAND.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC   ----------------------------------------------------------------------
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CC   use  by  non-profit  institutions as long  as its content  is  in  no  way
CC   modified and this statement is not removed.  Usage  by  and for commercial
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CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; U06753; AAA61873.1; -.
DR   HSSP; P01246; 1BST.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL        1     23       POTENTIAL.
FT   CHAIN        24    230       SOMATOLACTIN.
FT   DISULFID     28     38       BY SIMILARITY.
FT   DISULFID     88    204       BY SIMILARITY.
FT   DISULFID    221    229       BY SIMILARITY.
FT   CARBOHYD     34     34       N-LINKED (GLCNAC. . .) (POTENTIAL).
FT   CARBOHYD    144    144       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   230 AA;  26586 MW;  ACDB39117EE3D49A CRC64;


  Query Match             51.4%;  Score 36;  DB 1;  Length 230;
  Best Local Similarity   60.0%;  Pred. No. 51;
  Matches    6;  Conservative    3;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      5 LKLLLKLLKC 14
          ::: ||||||
Db    212 MEIFLKLLKC 221


RESULT  13
SOML_PAROL
ID   SOML_PAROL     STANDARD;      PRT;   231 AA.
AC   P20362;
DT   01-FEB-1991 (Rel. 17, Created)
DT   01-FEB-1991 (Rel. 17, Last sequence update)
DT   01-NOV-1995 (Rel. 32, Last annotation update)
DE   Somatolactin precursor (SL).
OS   Paralichthys olivaceus (Flounder).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC   Pleuronectoidei; Paralichthyidae; Paralichthys.
OX   NCBI_TaxID=8255;
RN   [1]
RP   SEQUENCE FROM N.A., AND SEQUENCE OF 25-47.
RC   TISSUE=Pituitary;
RX   MEDLINE=90272707; PubMed=2349240;
RA   Ono M., Takayama Y., Rand-Weaver M., Sakata S., Yasunaga T., Noso T.,
RA   Kawauchi H.;
RT   "cDNA cloning of somatolactin, a pituitary protein related to growth
RT   hormone and prolactin.";
RL   Proc. Natl. Acad. Sci. U.S.A. 87:4330-4334(1990).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: PITUITARY GLAND.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC   ----------------------------------------------------------------------
DR   EMBL; M33696; AAA49445.1; -.
DR   EMBL; M33695; AAA49444.1; -.
DR   PIR; A35793; A35793.
DR   HSSP; P01246; 1BST.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Glycoprotein; Signal.
FT   SIGNAL        1     24
FT   CHAIN        25    231       SOMATOLACTIN.
FT   DISULFID     29     39       BY SIMILARITY.
FT   DISULFID     89    205       BY SIMILARITY.
FT   DISULFID    222    230       BY SIMILARITY.
FT   CARBOHYD    145    145       N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE   231 AA;  26731 MW;  8C7EDAA6BB912BAB CRC64;


  Query Match             51.4%;  Score 36;  DB 1;  Length 231;
  Best Local Similarity   60.0%;  Pred. No. 52;
  Matches    6;  Conservative    3;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      5 LKLLLKLLKC 14
          ::: ||||||
Db    213 MEIFLKLLKC 222


RESULT  14
PRR1_BOVIN
ID   PRR1_BOVIN     STANDARD;      PRT;   238 AA.
AC   P05402;
DT   01-NOV-1988 (Rel. 09, Created)
DT   01-NOV-1988 (Rel. 09, Last sequence update)
DT   01-NOV-1997 (Rel. 35, Last annotation update)
DE   Placental prolactin-related protein I precursor (PRC-I).
```

```
GN   PRP1.
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC   Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=87289662; PubMed=3475696;
RA   Schuler L.A., Hurley W.L.;
RT   "Molecular cloning of a prolactin-related mRNA expressed in bovine
RT   placenta.";
RL   Proc. Natl. Acad. Sci. U.S.A. 84:5650-5654(1987).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89251077; PubMed=2721368;
RA   Ebbitt D.M., Hurley W.L., Kessler M.A., McDonald D.J., Schuler L.A.;
RT   "Characterization of the gene corresponding to bovine placental
RT   prolactin-related cDNA I: evolutionary implications.";
RL   DNA 8:161-169(1989).
CC   -!- FUNCTION: PLACENTAL PROLACTIN-RELATED PROTEINS MAY PLAY A
CC       SPECIFIC ROLE DURING GESTATION.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC   ---------------------------------------------------------------------
DR   EMBL; J02944; AAA30726.1; -.
DR   EMBL; M25494; AAA30727.1; -.
DR   EMBL; M25491; AAA30727.1; JOINED.
DR   EMBL; M25492; AAA30727.1; JOINED.
DR   EMBL; M25493; AAA30727.1; JOINED.
DR   PIR; A31417; A31417.
DR   HSSP; Q28632; 1AN3.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Placenta; Signal.
FT   SIGNAL        1     36       POTENTIAL.
FT   CHAIN        37    238       PLACENTAL PROLACTIN-RELATED PROTEIN I.
FT   DISULFID     97    215       BY SIMILARITY.
FT   DISULFID    232    238       BY SIMILARITY.
FT   CONFLICT    201    201       A -> D (IN REF. 2).
SQ   SEQUENCE   238 AA;  27675 MW;  EC3609F025BEF808 CRC64;


  Query Match             51.4%;  Score 36;  DB 1;  Length 238;
  Best Local Similarity   57.1%;  Pred. No. 53;
  Matches    8;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLLKC 14
           | ||| |:  || |
Db      21 CLLLLLLMSNLLLC 34


RESULT  15
Y147_MYCGE
ID   Y147_MYCGE     STANDARD;      PRT;   375 AA.
AC   P47393;
DT   01-FEB-1996 (Rel. 33, Created)
DT   01-FEB-1996 (Rel. 33, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Hypothetical protein MG147.
GN   MG147.
OS   Mycoplasma genitalium.
OC   Bacteria; Firmicutes; Bacillus/Clostridium group; Mollicutes;
OC   Mycoplasmataceae; Mycoplasma.
OX   NCBI_TaxID=2097;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ATCC 33530 / G-37;
RX   MEDLINE=96026346; PubMed=7569993;
RA   Fraser C.M., Gocayne J.D., White O., Adams M.D., Clayton R.A.,
RA   Fleischmann R.D., Bult C.J., Kerlavage A.R., Sutton G., Kelley J.M.,
RA   Fritchman J.L., Weidman J.F., Small K.V., Sandusky M., Fuhrmann J.L.,
RA   Nguyen D.T., Utterback T.R., Saudek D.M., Phillips C.A., Merrick J.M.,
RA   Tomb J.-F., Dougherty B.A., Bott K.F., Hu P.-C., Lucier T.S.,
RA   Peterson S.N., Smith H.O., Hutchison C.A. III, Venter J.C.;
RT   "The minimal gene complement of Mycoplasma genitalium.";
RL   Science 270:397-403(1995).
CC   -!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
CC   ---------------------------------------------------------------------
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CC   ---------------------------------------------------------------------
DR   EMBL; U39695; AAC71365.1; -.
DR   TIGR; MG147; -.
KW   Hypothetical protein; Transmembrane; Complete proteome.
FT   TRANSMEM     21     41       POTENTIAL.
FT   TRANSMEM     66     86       POTENTIAL.
FT   TRANSMEM    161    181       POTENTIAL.
FT   TRANSMEM    203    223       POTENTIAL.
FT   TRANSMEM    234    254       POTENTIAL.
FT   TRANSMEM    289    309       POTENTIAL.
FT   TRANSMEM    338    358       POTENTIAL.
SQ   SEQUENCE   375 AA;  43188 MW;  A14AF07D574E8046 CRC64;


  Query Match             51.4%;  Score 36;  DB 1;  Length 375;
  Best Local Similarity   66.7%;  Pred. No. 80;
  Matches    8;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLL 12
           || || ||: ||
Db      17 CKALLLLLIPLL 28


Search completed: June 17, 2002, 12:44:48
Job time: 303 sec
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GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:44:21 ; Search time 73.61 Seconds
(without alignments)
32.902 Million cell updates/sec

Title: US-09-367-714A-92
Perfect score: 70
Sequence: 1 CKLLLKLLLKLLKC 14

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 562222 seqs, 172994929 residues

Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL_19:*
1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacteriap:*
17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 42 | 60.0 | 1300 | 5 | Q9NKD6 | Q9nkd6 drosophila |
| 2 | 42 | 60.0 | 1360 | 5 | Q9NDI1 | Q9ndi1 drosophila |
| 3 | 41 | 58.6 | 295 | 9 | Q94M45 | Q94m45 streptococc |
| 4 | 40 | 57.1 | 106 | 5 | Q9VUG7 | Q9vug7 drosophila |
| 5 | 40 | 57.1 | 169 | 16 | Q9Z8R1 | Q9z8r1 chlamydia p |
| 6 | 40 | 57.1 | 207 | 13 | Q9PSN4 | Q9psn4 sparus aura |
| 7 | 40 | 57.1 | 216 | 13 | Q9DET0 | Q9det0 dicentrarch |
| 8 | 40 | 57.1 | 314 | 3 | Q05867 | Q05867 saccharomyc |
| 9 | 40 | 57.1 | 756 | 11 | Q9CUE5 | Q9cue5 mus musculu |
| 10 | 40 | 57.1 | 988 | 5 | Q9N8K2 | Q9n8k2 trypanosoma |
| 11 | 40 | 57.1 | 1022 | 10 | Q9FL22 | Q9fl22 arabidopsis |
| 12 | 40 | 57.1 | 1880 | 5 | O18465 | O18465 hirudo medi |
| 13 | 40 | 57.1 | 2481 | 10 | Q9FR53 | Q9fr53 arabidopsis |
| 14 | 40 | 57.1 | 2513 | 10 | Q9LPM4 | Q9lpm4 arabidopsis |
| 15 | 39 | 55.7 | 641 | 10 | Q9ZT73 | Q9zt73 arabidopsis |
| 16 | 38 | 54.3 | 219 | 13 | Q99370 | Q99370 gallus gall |
| 17 | 38 | 54.3 | 248 | 11 | Q9ESC4 | Q9esc4 mus musculu |
| 18 | 38 | 54.3 | 331 | 11 | Q9ESC5 | Q9esc5 mus musculu |
| 19 | 38 | 54.3 | 437 | 11 | Q9CZU4 | Q9czu4 mus musculu |
| 20 | 38 | 54.3 | 437 | 11 | Q925U1 | Q925u1 mus musculu |
| 21 | 38 | 54.3 | 513 | 8 | Q9MV03 | Q9mv03 pharus lati |
| 22 | 38 | 54.3 | 518 | 10 | Q94D22 | Q94d22 oryza sativ |
| 23 | 38 | 54.3 | 754 | 10 | Q9ZQZ2 | Q9zqz2 arabidopsis |
| 24 | 38 | 54.3 | 1119 | 5 | Q19190 | Q19190 caenorhabdi |
| 25 | 38 | 54.3 | 2045 | 5 | Q9W444 | Q9w444 drosophila |
| 26 | 38 | 54.3 | 2162 | 12 | O91940 | O91940 bovine resp |
| 27 | 38 | 54.3 | 2162 | 12 | Q9WKU5 | Q9wku5 bovine resp |
| 28 | 37 | 52.9 | 83 | 16 | Q928W1 | Q928w1 listeria in |
| 29 | 37 | 52.9 | 96 | 10 | Q9LWS8 | Q9lws8 oryza sativ |
| 30 | 37 | 52.9 | 116 | 3 | O74917 | O74917 schizosacch |
| 31 | 37 | 52.9 | 137 | 16 | Q97MS6 | Q97ms6 clostridium |
| 32 | 37 | 52.9 | 161 | 10 | Q9LZ38 | Q9lz38 arabidopsis |
| 33 | 37 | 52.9 | 191 | 2 | Q9R9K5 | Q9r9k5 paracoccus |
| 34 | 37 | 52.9 | 275 | 16 | Q9ZDI6 | Q9zdi6 rickettsia |
| 35 | 37 | 52.9 | 398 | 5 | Q22902 | Q22902 caenorhabdi |
| 36 | 37 | 52.9 | 481 | 5 | O45540 | O45540 caenorhabdi |
| 37 | 37 | 52.9 | 515 | 8 | Q9GHC4 | Q9ghc4 paris thibe |
| 38 | 37 | 52.9 | 1030 | 5 | Q19645 | Q19645 caenorhabdi |
| 39 | 37 | 52.9 | 1252 | 5 | Q9Y0D0 | Q9y0d0 hydra atten |
| 40 | 36.5 | 52.1 | 846 | 2 | Q9AIP5 | Q9aip5 candidatus |
| 41 | 36 | 51.4 | 36 | 10 | Q9M3S5 | Q9m3s5 arabidopsis |
| 42 | 36 | 51.4 | 53 | 8 | Q9BC70 | Q9bc70 sargassum p |
| 43 | 36 | 51.4 | 74 | 10 | Q94LQ5 | Q94lq5 oryza sativ |
| 44 | 36 | 51.4 | 120 | 3 | Q05715 | Q05715 saccharomyc |
| 45 | 36 | 51.4 | 143 | 4 | O15412 | O15412 homo sapien |

ALIGNMENTS

RESULT 1
Q9NKD6
ID Q9NKD6 PRELIMINARY; PRT; 1300 AA.
AC Q9NKD6; Q9VJU3;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE HYPOTHETICAL 144.0 KDA PROTEIN (RK GENE PRODUCT).
GN RK OR BG:DS00180.13 OR CG8930.
OS Drosophila melanogaster (Fruit fly).
OC Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
OC Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC Ephydroidea; Drosophilidae; Drosophila.
OX NCBI_TaxID=7227;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Y, AND CN BW SP;
RX MEDLINE=99403001; PubMed=10471707;
RA Ashburner M., Misra S., Roote J., Lewis S.E., Blazej R., Davis T.,
RA Doyle C., Galle R., George R., Harris N., Hartzell G., Harvey D.,
RA Hong L., Houston K., Hoskins R., Johnson G., Martin C., Moshrefi A.,
RA Palazzolo M., Reese M.G., Spradling A., Tsang G., Wan K., Whitelaw K.,
RA Celniker S., Rubin G.M.;
RT "An exploration of the sequence of a 2.9-Mb region of the genome of
RT Drosophila melanogaster: the Adh region.";
RL Genetics 153:179-219(1999).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=Y, AND CN BW SP;
RA Celniker S.E., Agbayani A., Arcaina T.T., Baxter E., Blazej R.G.,
RA Butenhoff C., Champe M., Chavez C., Chew M., Ciesiolka L., Doyle C.M.,
RA Farfan D.E., Galle R., George R.A., Harris N.L., Hoskins R.A.,
RA Houston K.A., Hummasti S.R., Karra K., Kearney L., Kim E., Lee B.,
RA Lewis S., Li P., Lomotan M.A., Mazda P., Moshrefi A.R., Moshrefi M.,
RA Nixon K., Pacleb J.M., Park S., Pfeiffer B., Poon L., Sequeira A.,
RA Sethi H., Snir E., Svirskas R.R., Wan K.H., Weinburg T., Zhang R.,
RA Zieran L.L., Rubin G.M.;
RL Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
RN [3]

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RP   SEQUENCE FROM N.A.
RC   STRAIN=BERKELEY;
RX   MEDLINE=20196006; PubMed=10731132;
RA   Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA   Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA   George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA   Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA   Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA   Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,
RA   Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA   Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA   Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA   Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA   Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA   Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA   de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
RA   Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA   Durbin K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA   Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA   Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA   Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA   Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
RA   Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA   Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA   Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA   Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
RA   Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA   Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA   Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA   Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
RA   Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA   Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA   Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA   Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
RA   Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA   Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
RA   Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA   Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O.,
RA   Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
RT   "The genome sequence of Drosophila melanogaster.";
RL   Science 287:2185-2195(2000).
DR   EMBL; AE003408; AAF44846.1; -.
DR   EMBL; AE003642; AAF53367.2; -.
DR   FlyBase; FBgn0003255; rk.
DR   InterPro; IPR000276; GPCR_Rhodpsn.
DR   InterPro; IPR003592; LRR_out.
DR   InterPro; IPR003591; LRR_typ.
DR   Pfam; PF00001; 7tm_1; 1.
DR   PRINTS; PR00237; GPCRRHODOPSN.
DR   SMART; SM00370; LRR; 1.
DR   SMART; SM00369; LRR_TYP; 4.
DR   PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
KW   Hypothetical protein.
SQ   SEQUENCE   1300 AA;  144031 MW;  B4B9E39F942FA0B3 CRC64;


  Query Match             60.0%;  Score 42;  DB 5;  Length 1300;
  Best Local Similarity   75.0%;  Pred. No. 85;
  Matches    9;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 CKLLLKLLLKLL 12
          | |||:|||:||
Db     14 CPLLLQLLLQLL 25


RESULT   2
Q9NDI1
ID   Q9NDI1      PRELIMINARY;      PRT;  1360 AA.
AC   Q9NDI1;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   GLYCOPROTEIN HORMONE RECEPTOR II.
GN   RK OR BG:DS00180.13 OR CG8930.
OS   Drosophila melanogaster (Fruit fly).
OC   Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
OC   Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC   Ephydroidea; Drosophilidae; Drosophila.
OX   NCBI_TaxID=7227;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CANTON S.; TISSUE=WHOLE ANIMAL;
RX   MEDLINE=20359836; PubMed=10899142;
RA   Eriksen K.K., Hauser F., Schiott M., Pedersen K.-M., Soendergaard L.,
RA   Grimmelikhuijzen C.J.P.;
RT   "Molecular Cloning, Genomic Organization, Developmental Regulation,
RT   and a Knock-Out Mutant of a Novel Leu-Rich Repeats-Containing G
RT   Protein-Coupled Receptor (DLGR-2) from Drosophila melanogaster.";
RL   Genome Res. 10:924-938(2000).
DR   EMBL; AF142343; AAF66608.1; -.
DR   HSSP; Q57815; 1D3Y.
DR   FlyBase; FBgn0003255; rk.
DR   InterPro; IPR000276; GPCR_Rhodpsn.
DR   InterPro; IPR001611; LRR.
DR   InterPro; IPR003592; LRR_out.
DR   InterPro; IPR003591; LRR_typ.
DR   Pfam; PF00001; 7tm_1; 1.
DR   Pfam; PF00560; LRR; 14.
DR   PRINTS; PR00237; GPCRRHODOPSN.
DR   SMART; SM00370; LRR; 2.
DR   SMART; SM00369; LRR_TYP; 5.
DR   PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
KW   Receptor.
SQ   SEQUENCE   1360 AA;  150731 MW;  7D435155B4F6F612 CRC64;


  Query Match             60.0%;  Score 42;  DB 5;  Length 1360;
  Best Local Similarity   75.0%;  Pred. No. 88;
  Matches    9;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 CKLLLKLLLKLL 12
          | |||:|||:||
Db     14 CPLLLQLLLQLL 25


RESULT   3
Q94M45
ID   Q94M45      PRELIMINARY;      PRT;  295 AA.
AC   Q94M45;
DT   01-DEC-2001 (TrEMBLrel. 19, Created)
DT   01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   HYPOTHETICAL 32.7 KDA PROTEIN.
OS   Streptococcus pneumoniae bacteriophage MM1.
OC   Viruses; dsDNA viruses, no RNA stage; Caudovirales; Siphoviridae.
OX   NCBI_TaxID=120574;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Obregon V., Garcia P., Garcia E., Lopez R., Garcia J.L.;
RT   "Complete nucleotide sequence and analysis of the temperate
RT   bacteriophage MM1 genome of Streptococcus pneumoniae.";
RL   Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AJ302074; CAC48100.1; -.
KW   Hypothetical protein.
SQ   SEQUENCE   295 AA;  32657 MW;  71A01307E78B6ACF CRC64;


  Query Match             58.6%;  Score 41;  DB 9;  Length 295;
  Best Local Similarity   66.7%;  Pred. No. 35;
  Matches    8;  Conservative    3;  Mismatches    1;  Indels    0;  Gaps    0;

Qy      1 CKLLLKLLLKLL 12
          ||||:::| ||
Db    267 CKLLLRVVLTLL 278
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RESULT   4
Q9VUG7
ID   Q9VUG7      PRELIMINARY;      PRT;   106 AA.
AC   Q9VUG7;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
DE   CG13476 PROTEIN.
GN   CG13476.
OS   Drosophila melanogaster (Fruit fly).
OC   Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
OC   Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC   Ephydroidea; Drosophilidae; Drosophila.
OX   NCBI_TaxID=7227;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=BERKELEY;
RX   MEDLINE=20196006; PubMed=10731132;
RA   Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA   Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA   George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA   Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA   Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA   Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,
RA   Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA   Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA   Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA   Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA   Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA   Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA   de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
RA   Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA   Durbin K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA   Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA   Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA   Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA   Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
RA   Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA   Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA   Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA   Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
RA   Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA   Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA   Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA   Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
RA   Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA   Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA   Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA   Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
RA   Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA   Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
RA   Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA   Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O.,
RA   Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
RT   "The genome sequence of Drosophila melanogaster.";
RL   Science 287:2185-2195(2000).
DR   EMBL; AE003533; AAF49716.2; -.
DR   FlyBase; FBgn0036441; CG13476.
SQ   SEQUENCE   106 AA;  12193 MW;  92041B063C951FC4 CRC64;


  Query Match             57.1%;  Score 40;  DB 5;  Length 106;
  Best Local Similarity   46.2%;  Pred. No. 22;
  Matches    6;  Conservative    7;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLLK 13
           |:|||::|:|::
Db      77 CELLLEILIKIVE 89


RESULT   5
Q9Z8R1
ID   Q9Z8R1      PRELIMINARY;      PRT;   169 AA.
AC   Q9Z8R1;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   HYPOTHETICAL 18.2 KDA PROTEIN.
GN   CPN0277 OR CPJ0277 OR CP0481.
OS   Chlamydia pneumoniae (Chlamydophila pneumoniae).
OC   Bacteria; Chlamydiales; Chlamydiaceae; Chlamydophila.
OX   NCBI_TaxID=83558;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=CWL029;
RX   MEDLINE=99206606; PubMed=10192388;
RA   Kalman S., Mitchell W., Marathe R., Lammel C., Fan J., Hyman R.W.,
RA   Olinger L., Grimwood J., Davis R.W., Stephens R.S.;
RT   "Comparative genomes of Chlamydia pneumoniae and C. trachomatis.";
RL   Nat. Genet. 21:385-389(1999).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=AR39;
RX   MEDLINE=20150255; PubMed=10684935;
RA   Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
RA   White O., Hickey E.K., Peterson J., Utterback T., Berry K., Bass S.,
RA   Linher K., Weidman J., Khouri H., Craven B., Bowman C., Dodson R.,
RA   Gwinn M., Nelson W., DeBoy R., Kolonay J., McClarty G., Salzberg S.L.,
RA   Eisen J., Fraser C.M.;
RT   "Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
RT   pneumoniae AR39.";
RL   Nucleic Acids Res. 28:1397-1406(2000).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=J138;
RX   MEDLINE=20330349; PubMed=10871362;
RA   Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kishi F., Ouchi K.,
RA   Shiba T., Ishii K., Hattori M., Kuhara S., Nakazawa T.;
RT   "Comparison of whole genome sequences of Chlamydia pneumoniae J138
RT   from Japan and CWL029 from USA.";
RL   Nucleic Acids Res. 28:2311-2314(2000).
DR   EMBL; AE001613; AAD18426.1; -.
DR   EMBL; AE002208; AAF38311.1; -.
DR   EMBL; AP002546; BAA98487.1; -.
DR   TIGR; CP0481; -.
KW   Hypothetical protein; Complete proteome.
SQ   SEQUENCE   169 AA;  18203 MW;  4A3B2967C18A7424 CRC64;


  Query Match             57.1%;  Score 40;  DB 16;  Length 169;
  Best Local Similarity   50.0%;  Pred. No. 32;
  Matches    6;  Conservative    6;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       3 LLLKLLLKLLKC 14
           |:|::::||:||
Db      94 LVLQVIIKLIKC 105


RESULT   6
Q9PSN4
ID   Q9PSN4      PRELIMINARY;      PRT;   207 AA.
AC   Q9PSN4;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   SOMATOLACTIN, SL.
OS   Sparus aurata (Gilthead sea bream).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Sparidae; Sparus.
OX   NCBI_TaxID=8175;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=95291367; PubMed=7773329;
RA   Cavari B., Noso T., Kawauchi H.;
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RT   "Somatolactin, a novel pituitary protein: isolation and
RT   characterization from Sparus aurata.";
RL   Mol. Mar. Biol. Biotechnol. 4:117-122(1995).
DR   HSSP; P01241; 1AXI.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ   SEQUENCE   207 AA;  23888 MW;  FDA8BBBEC9737271 CRC64;


  Query Match             57.1%;  Score 40;  DB 13;  Length 207;
  Best Local Similarity   70.0%;  Pred. No. 38;
  Matches    7;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       5 LKLLLKLLKC 14
           :::|||||||
Db     189 MEILLKLLKC 198


RESULT   7
Q9DET0
ID   Q9DET0      PRELIMINARY;      PRT;   216 AA.
AC   Q9DET0;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   SOMATOLACTIN PRECURSOR (FRAGMENT).
GN   SL.
OS   Dicentrarchus labrax (European sea bass).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC   Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
OC   Moronidae; Dicentrarchus.
OX   NCBI_TaxID=13489;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Company R., Calduch-Giner J.A., Mingarro M., Perez-Sanchez J.;
RT   "cDNA cloning and sequence of European sea bass (Dicentrarchus labrax)
RT   somatolactin.";
RL   Comp. Biochem. Physiol. 127:183-192(2000).
DR   EMBL; AJ277390; CAC16116.1; -.
DR   HSSP; P01241; 1AXI.
DR   InterPro; IPR001400; SOMATOTROPIN.
DR   Pfam; PF00103; hormone; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL        <1     9       POTENTIAL.
FT   CHAIN         10     216     SOMATOLACTIN.
SQ   SEQUENCE   216 AA;  25010 MW;  95CBB324A6069F00 CRC64;


  Query Match             57.1%;  Score 40;  DB 13;  Length 216;
  Best Local Similarity   70.0%;  Pred. No. 39;
  Matches    7;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       5 LKLLLKLLKC 14
           :::|||||||
Db     198 MEILLKLLKC 207


RESULT   8
Q05867
ID   Q05867      PRELIMINARY;      PRT;   314 AA.
AC   Q05867;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   CHROMOSOME XII COSMID 8003.
GN   YLR283W OR L8003.9.
OS   Saccharomyces cerevisiae (Baker's yeast).
OC   Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
OC   Saccharomycetales; Saccharomycetaceae; Saccharomyces.
OX   NCBI_TaxID=4932;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=97313267; PubMed=9169871;
RA   Johnston M., Hillier L., Riles L., Albermann K., Andre B., Ansorge W.,
RA   Benes V., Bruckner M., Delius H., Dubois E., Dusterhoft A.,
RA   Entian K.D., Floeth M., Goffeau A., Hebling U., Heumann K.,
RA   Heuss-Neitzel D., Hilbert H., Hilger F., Kleine K., Kotter P.,
RA   Louis E.J., Messenguy F., Mewes H.W., Miosga T., Mostl D.,
RA   Muller-Auer S., Nentwich U., Obermaier B., Piravandi E., Pohl T.M.,
RA   Portetelle D., Purnelle B., Rechmann S., Rieger M., Rinke M., Rose M.,
RA   Scharfe M., Scherens B., Scholler P., Schwager C., Schwarz S.,
RA   Underwood A.P., Urrestarazu L.A., Vandenbol M., Verhasselt P.,
RA   Vierendeels F., Voet M., Volckaert G., Voss H., Wambutt R., Wedler E.,
RA   Wedler H., Zimmermann F.K., Zollner A., Hani J., Hoheisel J.D.;
RT   "The nucleotide sequence of Saccharomyces cerevisiae chromosome XII.";
RL   Nature 387:0-0(0).
RN   [2]
RP   SEQUENCE FROM N.A.
RA   Pauley A.;
RL   Submitted (DEC-1994) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RA   Waterston R.;
RL   Submitted (NOV-1994) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   SEQUENCE FROM N.A.
RA   Cherry J.M.;
RL   Submitted (AUG-1997) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; U17243; AAB67328.1; -.
DR   SGD; S0004273; YLR283W.
SQ   SEQUENCE   314 AA;  36574 MW;  2CEFDB5C73D57B08 CRC64;


  Query Match             57.1%;  Score 40;  DB 3;  Length 314;
  Best Local Similarity   58.3%;  Pred. No. 54;
  Matches    7;  Conservative    4;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 CKLLLKLLLKLL 12
           ||::: |||:||
Db     122 CKIIIALLLQLL 133


RESULT   9
Q9CUE5
ID   Q9CUE5      PRELIMINARY;      PRT;   756 AA.
AC   Q9CUE5;
DT   01-JUN-2001 (TrEMBLrel. 17, Created)
DT   01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   4931427F14RIK PROTEIN (FRAGMENT).
GN   4931427F14RIK.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=TESTIS;
RX   MEDLINE=21085660; PubMed=11217851;
RA   Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA   Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA   Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA   Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA   Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA   Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
RA   Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA   Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA   Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA   Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
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RA   Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA   Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA   Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA   Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA   Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA   Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA   Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
RA   Hayashizaki Y.;
RT   "Functional annotation of a full-length mouse cDNA collection.";
RL   Nature 409:685-690(2001).
DR   EMBL; AK016477; BAB30259.1; -.
DR   MGD; MGI:1921612; 4931427F14Rik.
FT   NON_TER     756    756
SQ   SEQUENCE   756 AA;  86030 MW;  19A6BE7FD7853652 CRC64;

  Query Match             57.1%;  Score 40;  DB 11;  Length 756;
  Best Local Similarity   69.2%;  Pred. No. 1.1e+02;
  Matches    9;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLKC 14
           || | |: |||||
Db     118 KLTLPLIGKLLKC 130


RESULT  10
Q9N8K2
ID   Q9N8K2      PRELIMINARY;      PRT;   988 AA.
AC   Q9N8K2;
DT   01-OCT-2000 (TrEMBLrel. 15, Created)
DT   01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   HYPOTHETICAL 107.3 KDA PROTEIN.
GN   CHR1.297.
OS   Trypanosoma brucei.
OC   Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae; Trypanosoma.
OX   NCBI_TaxID=5691;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=TREU927;
RA   Hall N., Bowman S., Quail M., Ivens A.C., Kay M.P., Bray-Allen S.,
RA   Lennard N.J., Clark L.N., Harris B.R., Melville S., Lawson D.,
RA   Gerrard C., Rajandream M.A., Barrell B.G.;
RL   Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AL359782; CAB95541.1; -.
DR   InterPro; IPR000847; HTH_LysR.
DR   PROSITE; PS00044; HTH_LYSR_FAMILY; UNKNOWN_1.
KW   Hypothetical protein.
SQ   SEQUENCE   988 AA;  107318 MW;  EFB3A38C56AE6E85 CRC64;

  Query Match             57.1%;  Score 40;  DB 5;  Length 988;
  Best Local Similarity   61.5%;  Pred. No. 1.4e+02;
  Matches    8;  Conservative    4;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLKC 14
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Db     432 ELHLKLVLRLLQC 444


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ID   Q9FL22      PRELIMINARY;      PRT;  1022 AA.
AC   Q9FL22;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DE   GENOMIC DNA, CHROMOSOME 5, P1 CLONE:MPL12.
OS   Arabidopsis thaliana (Mouse-ear cress).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC   eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX   NCBI_TaxID=3702;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=COLUMBIA;
RX   MEDLINE=98344145; PubMed=9679202;
RA   Kaneko T., Kotani H., Nakamura Y., Sato S., Asamizu E., Miyajima N.,
RA   Tabata S.;
RT   "Structural analysis of Arabidopsis thaliana chromosome 5. V. Sequence
RT   features of the regions of 1,381,565 bp covered by twenty one
RT   physically assigned P1 and TAC clones.";
RL   DNA Res. 5:131-145(1998).
DR   EMBL; AB010698; BAB11095.1; -.
DR   InterPro; IPR003107; HAT.
DR   SMART; SM00386; HAT; 4.
SQ   SEQUENCE   1022 AA;  117365 MW;  B59AC43225E4A17F CRC64;

  Query Match             57.1%;  Score 40;  DB 10;  Length 1022;
  Best Local Similarity   66.7%;  Pred. No. 1.5e+02;
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Qy       1 CKLLLKLLLKLL 12
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Db     477 CKLLLEELMRLL 488


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ID   O18465      PRELIMINARY;      PRT;  1880 AA.
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DT   01-JAN-1998 (TrEMBLrel. 05, Created)
DT   01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
DT   01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE   TRACTIN.
OS   Hirudo medicinalis (Medicinal leech).
OC   Eukaryota; Metazoa; Annelida; Clitellata; Hirudinida; Hirudinea;
OC   Arynchobdellida; Hirudiniformes; Hirudinidae; Hirudo.
OX   NCBI_TaxID=6421;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=92198663; PubMed=1550678;
RA   Johansen K.M., Kopp D.M., Jellies J., Johansen J.;
RT   "Tract formation and axon fasciculation of molecularly distinct
RT   peripheral neuron subpopulations during leech embryogenesis.";
RL   Neuron 8:559-572(1992).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=97362067; PubMed=9214388;
RA   Huang Y., Jellies J., Johansen K.M., Johansen J.;
RT   "Differential glycosylation of tractin and LeechCAM, two novel Ig
RT   superfamily members, regulates neurite extension and fascicle
RT   formation.";
RL   J. Cell Biol. 138:143-157(1997).
DR   EMBL; U92813; AAC47654.1; -.
DR   HSSP; P20241; 1CFB.
DR   InterPro; IPR000087; Collagen.
DR   InterPro; IPR003962; FnIII_repeat.
DR   InterPro; IPR003961; FN_III.
DR   InterPro; IPR003598; Ig_c2.
DR   InterPro; IPR003600; Ig_like.
DR   InterPro; IPR003006; Ig_MHC.
DR   Pfam; PF00041; fn3; 4.
DR   Pfam; PF00047; ig; 6.
DR   PRINTS; PR00014; FNTYPEIII.
DR   SMART; SM00060; FN3; 4.
DR   SMART; SM00408; IGc2; 4.
DR   SMART; SM00410; IG_like; 2.
KW   Immunoglobulin domain; Repeat.
SQ   SEQUENCE   1880 AA;  199865 MW;  174EC84DAC540DF0 CRC64;

  Query Match             57.1%;  Score 40;  DB 5;  Length 1880;
  Best Local Similarity   64.3%;  Pred. No. 2.4e+02;
  Matches    9;  Conservative    1;  Mismatches    4;  Indels    0;  Gaps    0;
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Db    1758 CLLLLLLLLLILLC 1771
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ID  Q9FR53  PRELIMINARY;  PRT;  2481 AA.
AC  Q9FR53;
DT  01-MAR-2001 (TrEMBLrel. 16, Created)
DT  01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT  01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
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GN  TOR.
OS  Arabidopsis thaliana (Mouse-ear cress).
OC  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC  Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC  eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX  NCBI_TaxID=3702;
RN  [1]
RP  SEQUENCE FROM N.A.
RC  STRAIN=CV. COLUMBIA;
RA  Menand B., Nussaume L., Meyer C., Desnos T., Bouchez D., Robaglia C.;
RT  "Mutation in AtTOR affects embryo development.";
RL  Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
DR  EMBL; AF178967; AAG43423.1; -.
DR  HSSP; P42345; 1FAP.
DR  InterPro; IPR003151; FAT.
DR  InterPro; IPR003152; FATC.
DR  InterPro; IPR000403; PI3_PI4_kinase.
DR  Pfam; PF02259; FAT; 1.
DR  Pfam; PF02260; FATC; 1.
DR  Pfam; PF00454; PI3_PI4_kinase; 1.
DR  SMART; SM00146; PI3Kc; 1.
DR  PROSITE; PS00915; PI3_4_KINASE_1; 1.
DR  PROSITE; PS50290; PI3_4_KINASE_3; 1.
SQ  SEQUENCE  2481 AA;  279187 MW;  DA663EA9A9366F93 CRC64;

Query Match  57.1%;  Score 40;  DB 10;  Length 2481;
Best Local Similarity  90.9%;  Pred. No. 3.1e+02;
Matches  10;  Conservative  0;  Mismatches  1;  Indels  0;  Gaps  0;

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Db     785 LLLGLLLKLLK 795
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AC  Q9LPM4;
DT  01-OCT-2000 (TrEMBLrel. 15, Created)
DT  01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT  01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE  F2J10.9 PROTEIN.
GN  F2J10.9.
OS  Arabidopsis thaliana (Mouse-ear cress).
OC  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC  Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC  eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX  NCBI_TaxID=3702;
RN  [1]
RP  SEQUENCE FROM N.A.
RC  STRAIN=CV. COLUMBIA;
RA  Sakano H., Liu S.X., Yu G., Lee J., Lenz C., Pham P., Toriumi M.,
RA  Chin C., Chiou J., Choi E., Chung M., Gonzalez A., Howng B., Liu A.,
RA  Vaysberg M., Altafi H., Brooks S., Buehler E., Chao Q., Conn L.,
RA  Conway A.B., Hansen N.F., Johnson-Hopson C., Khan S., Kim C., Lam B.,
RA  Miranda M., Nguyen M., Palm C., Shinn P., Southwick A., Davis R.W.,
RA  Ecker J.R., Federspiel N.A., Theologis A.;
RT  "The sequence of BAC F2J10 from Arabidopsis thaliana chromosome 1.";
RL  Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases.
DR  EMBL; AC015445; AAF76442.1; -.
DR  HSSP; P42345; 1FAP.
DR  InterPro; IPR003151; FAT.
DR  InterPro; IPR003152; FATC.
DR  InterPro; IPR000403; PI3_PI4_kinase.
DR  Pfam; PF02259; FAT; 1.
DR  Pfam; PF02260; FATC; 1.
DR  Pfam; PF00454; PI3_PI4_kinase; 1.
DR  SMART; SM00146; PI3Kc; 1.
DR  PROSITE; PS00915; PI3_4_KINASE_1; 1.
DR  PROSITE; PS00916; PI3_4_KINASE_2; 1.
DR  PROSITE; PS50290; PI3_4_KINASE_3; 1.
SQ  SEQUENCE  2513 AA;  282911 MW;  A4B9740321AC5261 CRC64;

Query Match  57.1%;  Score 40;  DB 10;  Length 2513;
Best Local Similarity  90.9%;  Pred. No. 3.1e+02;
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DT  01-MAY-1999 (TrEMBLrel. 10, Created)
DT  01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT  01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE  HYPOTHETICAL 70.5 KDA PROTEIN.
GN  F9H3.7 OR AT4G03450.
OS  Arabidopsis thaliana (Mouse-ear cress).
OC  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC  Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC  eurosids II; Brassicales; Brassicaceae; Arabidopsis.
OX  NCBI_TaxID=3702;
RN  [1]
RP  SEQUENCE FROM N.A.
RC  STRAIN=CV. COLUMBIA;
RA  Huang E.N., Parnell L.D., de la Bastide M., Schutz K., Habermann K.,
RA  Dedhia N.N., McCombie W.R.;
RT  "Genomic sequence of Arabidopsis Thaliana BAC F9H3, chromosome IV,
RT  18.8 cM.";
RL  Submitted (FEB-1999) to the EMBL/GenBank/DDBJ databases.
RN  [2]
RP  SEQUENCE FROM N.A.
RA  EU Arabidopsis sequencing project;
RL  Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
DR  EMBL; AF071527; AAD11587.1; -.
DR  EMBL; AL161496; CAB77830.1; -.
DR  InterPro; IPR002110; ANK.
DR  Pfam; PF00023; ank; 9.
DR  SMART; SM00248; ANK; 2.
DR  PROSITE; PS50297; ANK_REP_REGION; 1.
KW  ANK repeat; Hypothetical protein; Repeat.
SQ  SEQUENCE  641 AA;  70466 MW;  ECD57973640403CD CRC64;

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Best Local Similarity  70.0%;  Pred. No. 1.4e+02;
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Job time: 298 sec

GenCore version 4.5


OM protein - protein search, using sw model

Run on: June 17, 2002, 12:42:05 ; Search time 34.71 Seconds
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Title: US-09-367-714A-92
Perfect score: 70
Sequence: 1 CKLLLKLLLKLLKC 14

Scoring table: BLOSUM62
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Searched: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
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Listing first 45 summaries

Database : Issued_Patents_AA:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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| 2 | 40 | 57.1 | 14 | 2 | US-08-569-188-8 | Sequence 8, Appli |
| 3 | 40 | 57.1 | 14 | 5 | PCT-US94-07019-8 | Sequence 8, Appli |
| 4 | 40 | 57.1 | 16 | 2 | US-08-569-188-1 | Sequence 1, Appli |
| 5 | 40 | 57.1 | 16 | 2 | US-08-569-188-10 | Sequence 10, Appl |
| 6 | 40 | 57.1 | 16 | 2 | US-08-569-188-11 | Sequence 11, Appl |
| 7 | 40 | 57.1 | 16 | 2 | US-08-569-188-12 | Sequence 12, Appl |
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| 9 | 40 | 57.1 | 16 | 5 | PCT-US94-07019-10 | Sequence 10, Appl |
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| 13 | 40 | 57.1 | 17 | 2 | US-08-818-253-39 | Sequence 39, Appl |
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| 16 | 40 | 57.1 | 18 | 2 | US-08-569-188-5 | Sequence 5, Appli |
| 17 | 40 | 57.1 | 18 | 5 | PCT-US94-07019-5 | Sequence 5, Appli |
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| 20 | 40 | 57.1 | 23 | 2 | US-08-290-853-19 | Sequence 19, Appl |
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| 37 | 37 | 52.9 | 17 | 5 | PCT-US94-07019-4 | Sequence 4, Appli |
| 38 | 37 | 52.9 | 17 | 5 | PCT-US94-07019-14 | Sequence 14, Appl |
| 39 | 37 | 52.9 | 18 | 2 | US-08-569-188-6 | Sequence 6, Appli |
| 40 | 37 | 52.9 | 18 | 2 | US-08-569-188-15 | Sequence 15, Appl |
| 41 | 37 | 52.9 | 18 | 4 | US-08-960-054A-12 | Sequence 12, Appl |
| 42 | 37 | 52.9 | 18 | 4 | US-08-958-993A-12 | Sequence 12, Appl |
| 43 | 37 | 52.9 | 18 | 4 | US-09-296-089-36 | Sequence 36, Appl |
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| 45 | 37 | 52.9 | 18 | 5 | PCT-US94-07019-15 | Sequence 15, Appl |

ALIGNMENTS

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RESULT   1
US-09-000-692-1
; Sequence 1, Application US/09000692
; Patent No. 6339067
; GENERAL INFORMATION:
;  APPLICANT: WOLFF, JON A
;  APPLICANT: HAGSTROM, JAMES E
;  APPLICANT: BUDKER, VLADIMIR G
;  APPLICANT: TRUBETSKOY, VLADIMIR S
;  APPLICANT: SLATTUM, PAUL M
;  APPLICANT: HANSON, LISA J
;  TITLE OF INVENTION: A PROCESS OF MAKING A COMPOUND BY FORMING A POLYMER
;  TITLE OF INVENTION: FROM A TEMPLATE  DRUG
;  FILE REFERENCE: TPCIP000692
;  CURRENT APPLICATION NUMBER: US/09/000,692
;  CURRENT FILING DATE: 1997-12-30
;  EARLIER APPLICATION NUMBER: 08/778657
;  EARLIER FILING DATE: 1997-01-03
;  NUMBER OF SEQ ID NOS: 1
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
;   LENGTH: 20
;   TYPE: PRT
;   ORGANISM: Unknown
;   FEATURE:
;   OTHER INFORMATION: Description of Unknown Organism:AMPHIPATHIC
US-09-000-692-1


  Query Match             64.3%;  Score 45;  DB 4;  Length 20;
  Best Local Similarity   60.0%;  Pred. No. 1;
  Matches   12;  Conservative    0;  Mismatches    2;  Indels    6;  Gaps    1;

Qy      1 CKLLLKL------LLKLLKC 14
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Db      1 CKLLKKLLKLWKKLLKKLKC 20


RESULT   2
US-08-569-188-8
; Sequence 8, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;      STREET:  1007 MARKET STREET
;      CITY:  WILMINGTON
```

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;     STATE:  DELAWARE
;     COUNTRY:  UNITED STATES OF AMERICA
;     ZIP:  19898
;   COMPUTER READABLE FORM:
;     MEDIUM TYPE:  DISKETTE, 3.50 INCH
;     COMPUTER:  IBM PC COMPATIBLE
;     OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;     SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER:  US/08/569,188
;     FILING DATE:
;     CLASSIFICATION:  525
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER:  08/082,852
;     FILING DATE:  JUNE 22, 1993
;   ATTORNEY/AGENT INFORMATION:
;     NAME:  LINDA AXAMETHY FLOYD
;     REGISTRATION NUMBER:  33,692
;     REFERENCE/DOCKET NUMBER:  CR-9295-A
;   TELECOMMUNICATION INFORMATION:
;     TELEPHONE:  302-892-8112
;     TELEFAX:  302-773-0164
;   INFORMATION FOR SEQ ID NO:  8:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  14 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  unknown
;       TOPOLOGY:  unknown
;     MOLECULE TYPE:  peptide
US-08-569-188-8


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  Matches   10;  Conservative    83.3%;  Pred. No. 3.9;
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Db        2 KKLLKLLKKLLK 13


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;     TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;     TITLE OF INVENTION:  COMPOSITIONS
;     NUMBER OF SEQUENCES:  15
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  FLOPPY DISK
;       COMPUTER:  MACINTOSH
;       OPERATING SYSTEM:  MACINTOSH 6.0
;       SOFTWARE:  MICROSOFT WORD, 4.0
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;       APPLICATION NUMBER:  PCT/US94/07019
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/082,852
;       FILING DATE:  JUNE 22, 1993
;     INFORMATION FOR SEQ ID NO:  8:
;       SEQUENCE CHARACTERISTICS:
;         LENGTH:  14 amino acids
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;         STRANDEDNESS:  unknown
;         TOPOLOGY:  unknown
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PCT-US94-07019-8


  Query Match
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  Matches   10;  Conservative    83.3%;  Pred. No. 3.9;
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          | ||||| ||||
Db        2 KKLLKLLKKLLK 13


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; Patent No. 5847047
;   GENERAL INFORMATION:
;     APPLICANT:  SHARON LPRETTA HAYNIE
;     TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;     NUMBER OF SEQUENCES:  18
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;       STREET:  1007 MARKET STREET
;       CITY:  WILMINGTON
;       STATE:  DELAWARE
;       COUNTRY:  UNITED STATES OF AMERICA
;       ZIP:  19898
;     COMPUTER READABLE FORM:
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;       COMPUTER:  IBM PC COMPATIBLE
;       OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;       SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/569,188
;       FILING DATE:
;       CLASSIFICATION:  525
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/082,852
;       FILING DATE:  JUNE 22, 1993
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  LINDA AXAMETHY FLOYD
;       REGISTRATION NUMBER:  33,692
;       REFERENCE/DOCKET NUMBER:  CR-9295-A
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  302-892-8112
;       TELEFAX:  302-773-0164
;     INFORMATION FOR SEQ ID NO:  1:
;       SEQUENCE CHARACTERISTICS:
;         LENGTH:  16 amino acids
;         TYPE:  amino acid
;         STRANDEDNESS:  unknown
;         TOPOLOGY:  unknown
;       MOLECULE TYPE:  peptide
US-08-569-188-1


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  Best Local Similarity   57.1%;  Score 40;  DB 2;  Length 16;
  Matches   10;  Conservative    83.3%;  Pred. No. 4.3;
                  0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy        2 KLLLKLLLKLLK 13
          | ||||| ||||
Db        4 KKLLKLLKKLLK 15


RESULT   5
US-08-569-188-10
; Sequence 10, Application US/08569188
; Patent No. 5847047
;   GENERAL INFORMATION:
;     APPLICANT:  SHARON LPRETTA HAYNIE
;     TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;     NUMBER OF SEQUENCES:  18
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;       STREET:  1007 MARKET STREET
;       CITY:  WILMINGTON
;       STATE:  DELAWARE
;       COUNTRY:  UNITED STATES OF AMERICA
;       ZIP:  19898
```

```
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.50 INCH
;      COMPUTER:  IBM PC COMPATIBLE
;      OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;      SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/569,188
;      FILING DATE:
;      CLASSIFICATION:  525
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  LINDA AXAMETHY FLOYD
;      REGISTRATION NUMBER:  33,692
;      REFERENCE/DOCKET NUMBER:  CR-9295-A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  302-892-8112
;      TELEFAX:  302-773-0164
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
US-08-569-188-10


  Query Match             57.1%;  Score 40;  DB 2;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 4.3;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15


RESULT   6
US-08-569-188-11
; Sequence 11, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;      STREET:  1007 MARKET STREET
;      CITY:  WILMINGTON
;      STATE:  DELAWARE
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  19898
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.50 INCH
;      COMPUTER:  IBM PC COMPATIBLE
;      OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;      SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/569,188
;      FILING DATE:
;      CLASSIFICATION:  525
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  LINDA AXAMETHY FLOYD
;      REGISTRATION NUMBER:  33,692
;      REFERENCE/DOCKET NUMBER:  CR-9295-A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  302-892-8112
;      TELEFAX:  302-773-0164
;  INFORMATION FOR SEQ ID NO:  11:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
US-08-569-188-11


  Query Match             57.1%;  Score 40;  DB 2;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 4.3;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15


RESULT   7
US-08-569-188-12
; Sequence 12, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;      STREET:  1007 MARKET STREET
;      CITY:  WILMINGTON
;      STATE:  DELAWARE
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  19898
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.50 INCH
;      COMPUTER:  IBM PC COMPATIBLE
;      OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;      SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/569,188
;      FILING DATE:
;      CLASSIFICATION:  525
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  LINDA AXAMETHY FLOYD
;      REGISTRATION NUMBER:  33,692
;      REFERENCE/DOCKET NUMBER:  CR-9295-A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  302-892-8112
;      TELEFAX:  302-773-0164
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
US-08-569-188-12


  Query Match             57.1%;  Score 40;  DB 2;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 4.3;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15


RESULT   8
PCT-US94-07019-1
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; Sequence 1, Application PC/TUS9407019
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-1


  Query Match             57.1%;  Score 40;  DB 5;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 4.3;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15


RESULT   9
PCT-US94-07019-10
; Sequence 10, Application PC/TUS9407019
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-10


  Query Match             57.1%;  Score 40;  DB 5;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 4.3;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15


RESULT  10
PCT-US94-07019-11
; Sequence 11, Application PC/TUS9407019
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  11:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-11


  Query Match             57.1%;  Score 40;  DB 5;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 4.3;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15


RESULT  11
PCT-US94-07019-12
; Sequence 12, Application PC/TUS9407019
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  12:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  16 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-12


  Query Match             57.1%;  Score 40;  DB 5;  Length 16;
  Best Local Similarity   83.3%;  Pred. No. 4.3;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15
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SULT 12
S-08-569-188-3
; Sequence 3, Application US/08569188
; Patent No. 5847047
;  GENERAL INFORMATION:
;    APPLICANT:  SHARON LPRETTA HAYNIE
;    TITLE OF INVENTION:  NOVEL ANTIMICORBIAL COMPOSITIONS
;    NUMBER OF SEQUENCES:  18
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  E. I. DU PONT DE NEMOURS AND COMPANY
;      STREET:  1007 MARKET STREET
;      CITY:  WILMINGTON
;      STATE:  DELAWARE
;      COUNTRY:  UNITED STATES OF AMERICA
;      ZIP:  19898
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  DISKETTE, 3.50 INCH
;      COMPUTER:  IBM PC COMPATIBLE
;      OPERATING SYSTEM:  MICROSOFT WINDOWS 95
;      SOFTWARE:  MICROSOFT WORD FOR WINDOWS 95 (7.0)
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/569,188
;      FILING DATE:
;      CLASSIFICATION:  525
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  LINDA AXAMETHY FLOYD
;      REGISTRATION NUMBER:  33,692
;      REFERENCE/DOCKET NUMBER:  CR-9295-A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  302-892-8112
;      TELEFAX:  302-773-0164
;  INFORMATION FOR SEQ ID NO:  3:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  17 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
US-08-569-188-3


  Query Match             57.1%;  Score 40;  DB 2;  Length 17;
  Best Local Similarity   83.3%;  Pred. No. 4.6;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
           | |||||  ||||
Db       5 KKLLKLLKKLLK 16


RESULT 13
US-08-818-253-39
; Sequence 39, Application US/08818253
; Patent No. 5998204
;  GENERAL INFORMATION:
;    APPLICANT:  Tsien, Roger Y.
;    APPLICANT:  Miyawaki, Atsushi
;    TITLE OF INVENTION:  FLUORESCENT PROTEIN SENSORS FOR
;    TITLE OF INVENTION:  DETECTION OF ANALYTES
;    NUMBER OF SEQUENCES:  61
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson P.C.
;      STREET:  4225 Executive Square, Suite 1400
;      CITY:  La Jolla
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  92037
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  Windows 95
;      SOFTWARE:  FastSEQ for Windows Version 2.0b
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/818,253
;      FILING DATE:  14-MAR-1997
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Haile, Ph.D., Lisa A.
;      REGISTRATION NUMBER:  38,347
;      REFERENCE/DOCKET NUMBER:  07257/043001
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  619/678-5070
;      TELEFAX:  619/678-5099
;  INFORMATION FOR SEQ ID NO:  39:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  17 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-818-253-39


  Query Match             57.1%;  Score 40;  DB 2;  Length 17;
  Best Local Similarity   83.3%;  Pred. No. 4.6;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15


RESULT 14
US-08-818-252-39
; Sequence 39, Application US/08818252B
; Patent No. 6197928
; GENERAL INFORMATION:
;  APPLICANT: Tsien, Roger Y.
;  APPLICANT: Miyawaki, Atsushi
;  TITLE OF INVENTION: FLUORESCENT PROTEIN SENSORS FOR
;  TITLE OF INVENTION: DETECTION OF ANALYTES
;  FILE REFERENCE: 07257/042001
;  CURRENT APPLICATION NUMBER: US/08/818,252B
;  CURRENT FILING DATE: 1997-03-14
;  NUMBER OF SEQ ID NOS: 56
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 39
;   LENGTH: 17
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Calmodulin binding peptide-2
US-08-818-252-39


  Query Match             57.1%;  Score 40;  DB 4;  Length 17;
  Best Local Similarity   83.3%;  Pred. No. 4.6;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
           | |||||  ||||
Db       4 KKLLKLLKKLLK 15


RESULT 15
PCT-US94-07019-3
; Sequence 3, Application PC/TUS9407019
;  GENERAL INFORMATION:
;    APPLICANT:
;    TITLE OF INVENTION:  NOVEL ANTIMICROBIAL
;    TITLE OF INVENTION:  COMPOSITIONS
;    NUMBER OF SEQUENCES:  15
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```
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  FLOPPY DISK
;      COMPUTER:  MACINTOSH
;      OPERATING SYSTEM:  MACINTOSH 6.0
;      SOFTWARE:  MICROSOFT WORD, 4.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/07019
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/082,852
;      FILING DATE:  JUNE 22, 1993
;  INFORMATION FOR SEQ ID NO:  3:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  17 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  unknown
;      TOPOLOGY:  unknown
;    MOLECULE TYPE:  peptide
PCT-US94-07019-3


  Query Match             57.1%;  Score 40;  DB 5;  Length 17;
  Best Local Similarity   83.3%;  Pred. No. 4.6;
  Matches   10;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy       2 KLLLKLLLKLLK 13
            | ||||| ||||
Db       5 KKLLKLLKKLLK 16


Search completed: June 17, 2002, 12:42:05
Job time: 225 sec
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